NETWORK PROJECT ON BUFFALO IMPROVEMENT

ANNUAL REPORT 2015 - 2016

AND

PROJECT CO-ORDINATOR'S OBSERVATIONS

COORDINATING UNIT

NETWORK PROJECT ON BUFFALO IMPROVEMENT
(ICAR)

ICAR- CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES
SIRSA ROAD, HISAR – 125 001 (HARYANA)

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ICAR- CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES

HISAR – 125 001 (HARYANA)

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NETWORK PROJECT ON BUFFALO IMPROVEMENT

Annual Report 2015-16

All India Coordinated Research Project on buffaloes was initiated in the year 1970-71 for genetic evaluation of large and medium size buffaloes which was later on made specific on two important breeds viz. Murrah and Surti in the coordinated program. The main thrust was to test the sires with a view to produce proven bulls for enhancing milk production. The efforts made by scientific manpower through this venture are able to standardize testing methodology and germplasm evaluation for superior bull production of important breeds of buffaloes. The infrastructure has been created which is capable to generate germplasm in the form of bulls and frozen semen at some of the testing centers.

Network Project on Buffalo Improvement and running at ICAR-Central Institute for Research on Buffalo, Hisar since 1993. This has ensured sustained maintenance and production of improved germplasm on large scale for use in buffalo improvement program and for establishing linkages with institutions. This is the only centre in India where semen from progeny tested proven bulls are available. Progeny testing in Murrah Breed is carried out at eight participating institutional /SVU centres viz. CIRB Hisar, NDRI Karnal and IVRI Izatnagar (non funded ICAR centers), GADVASU Ludhiana, LUVAS Hisar and LRS Mamnoor (funded SVU centres), KVASU Pookode and ICAR RC Patna (non funded SVU centres). Three field centers of Murrah were also initiated in 2001 at CIRB Hisar, NDRI Karnal and GADVASU Ludhiana to produce more number of daughters per bull for accurately evaluating the breeding bulls. About 14000 artificial inseminations were carried out in 2015-16 at farmer's door in the village to produce daughters. The milk yields of daughters are being recorded for use in sire evaluation.

1100 breedable buffaloes are being maintained at institutional Murrah centres for production of high genetic merit male and female calves to be used for production of future sires. As per technical program for Murrah breed, a set of upto 15 pedigreed bulls is selected in each set and it is used for AI in the associated herds (comprising a total of 1090 breedable buffaloes) and field buffaloes (approximately 14000 AIs per annum) for test mating over 18 months duration. From 1st July 2014 to 31 December 2015 semen of XV set is being used at the Murrah centres while semen of XVI set is being used from Jan. 2016. There are 15 superior bulls (5 bulls from CIRB Hisar, 3 bulls from GADVASU Ludhiana, 4 bulls from NDRI Karnal and 3 bulls from LUVAS Hisar) are in the XVI set. It will continue till June 2017. So far, 203 superior bulls have been test mated in 15 sets and 15 bulls of XVI set are under test mating. Data of 331 daughters born from the 11th set of bulls which completed 1st lactation was compiled and bulls were evaluated. Bull no. 3267, 3591 from CIRB Hisar, Hisar ranked 1st and 2nd with sire index value of 2177.81 and 2176.56 kg respectively followed by bull no 2133 from GADVASU, Ludhiana having sire index of 2175.40. The percent genetic superiority of these bulls over their contemporary daughters was 0.20, 0.14 and 0.09, respectively. There is an improvement in WA, 305 or less day milk yield, SP and CI at Murrah centres. 79187 frozen semen doses and 116 superior bull were sold /distributed to farmers and other agencies during 2015-16. Current stock of frozen semen from Murrah bulls is 342662 which include 71967 straws from progeny tested bulls.

Elite herds of Jaffarabadi, Surti, Bhadawari, Pandharpuri, Nili Ravi, and Swamp breeds of buffaloes have been established in their respective breeding tracts. Semen freezing laboratories have been established at all the centres. Nili-Ravi, Bhadawari and swamp breed centres are functioning as conservation and improvement units and Jaffarabadi, Pandharpuri and Surti breed centre are concentrating on field progeny testing along with maintaining the herd for bull production and testing A breedable herd of 580 (Nili-Ravi-227, Jaffarabadi-174, Pandharpuri-35, Swamp-35, Surti-50 and Bhadawari-59) is being maintained at the above six breeds. A total of 125894 semen doses were produced during 2015-16 of other breeds viz. Jaffarabadi, Surti, Pandharpuri Bhadawari, Nili Ravi and Swamp, were produced as compared to 1,05,978 semen doses in 2014-15 and 48967 semen doses were sold/supplied during the report period. Balance stock of frozen semen of buffalo bulls, other than Murrah breed, is 341984 doses.

XII Plan Outlay: NWP (BI) Year-wise and head-wise) (Rs. in Lakhs)

Head	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	ICAR Share	State Share	**ICAR Share**	State Share	**ICAR Share**	State Share	**ICAR Share**	State Share	**ICAR Share**	State Share	**ICAR Share**	State Share
A) Grant-in-aid Salary												
i) Pay & allowances	142.67	47.55	235.13	78.38	144.90	48.30	153.75	51.25	163.87	54.63	840.32	280.11
Total A	142.67	47.55	235.13	78.38	144.90	48.30	153.75	51.25	163.87	54.63	840.32	280.11
B) **Grant-in-aid General**												
ii) TA (Domestic)	6.41	1.25	8.65	1.55	10.75	1.85	11.27	1.93	11.48	1.92	48.56	8.50
iii) Cont. (Research)	200.92	44.01	236.22	58.40	436.93	91.46	476.55	101.85	500.75	106.25	1851.37	401.97
iv) HRD (Trg.) International Domestic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total B	207.33	45.26	244.87	59.95	447.68	93.31	487.82	103.78	512.23	108.17	1899.93	410.47
C) Grant-in-aid Capital												
a) Works	0.00	0.00	0.00	0.00	153.25	39.25	0.00	0.00	0.00	0.00	153.25	39.25
b) Equipment	0.00	0.00	0.00	0.00	144.75	25.25	96.75	17.25	0.00	0.00	241.50	42.50
c) Inf. Technology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d) Library Books & journals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e) Vehicles & Vessels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
f) Livestock	0.00	0.00	0.00	0.00	65.00	17.00	0.00	0.00	0.00	0.00	65.00	17.00
g) Furniture & fixtures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
h) Land & renovation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
i) Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total C	**0.00**	**0.00**	**0.00**	**0.00**	**363.00**	**81.50**	**96.75**	**17.25**	**0.00**	**0.00**	**459.75**	**98.75**
Total (A+B+C)	350.00	92.81	480.00	138.33	955.58	223.11	738.32	172.28	676.10	162.80	3200.00	789.33
Total allocation	442.81		618.33		1178.69		910.60		838.90		3989.33	

Centre wise and head wise fund (ICAR Share) allocation for Network Project on Buffalo Improvement as per R E for the financial year 2015-16. (Rs. In lakhs)

Name of Centre	Salary	General		Capital			Net Requirement		
	Pay	TA	Rec.	Equip ment	Works	Lives-tock	Net Requir ement	ICAR Share	State Share
SAU's									
GADVASU, Ludhiana	56.00	1.00	56.00	3.00	0.00	5.00	121.00	90.75	30.25
ICAR Share	42.00	0.750	42.00	2.25	0.00	3.75	90.75		
LUVAS, Hisar	0.00	0.80	56.00	0.00	6.00	0.00	62.80	47.10	15.70
ICAR Share	0.00	0.60	42.00	0.00	4.50	0.00	47.100		
JAU, Junagadh	6.00	1.00	44.00	3.00	2.00	0.00	56.00	42.00	14.00
ICAR Share	4.50	0.75	33.00	2.25	1.50	0.00	42.00		
RAJUVAS, Vallabhnagar	16.00	1.00	42.00	2.00	6.00	0.00	67.00	50.25	16.75
ICAR Share	12.00	0.75	31.50	1.50	4.50	0.00	50.25		
MPKV, Kolhapur	44.00	1.00	36.00	2.00	0.00	0.00	83.00	62.25	20.75
ICAR Share	33.00	0.75	27.00	1.50	0.00	0.00	62.25		
LRS, Mamnoor (AP)	20.00	1.00	36.00	0.00	0.00	8.00	65.00	48.75	16.25
ICAR Share	15.00	0.75	27.00	0.00	0.00	6.00	48.750		
GADVASU Ludhiana (FPT)	42.00	1.00	16.00	2.00	0.00	0.00	61.00	45.75	15.25
ICAR Share	31.50	0.75	12.00	1.50	0.00	0.00	45.7500		
AAU Khanapara	34.00	1.00	26.00	0.00	3.00	0.00	64.00	48.00	16.00
ICAR Share	25.50	0.75	19.50	0.00	2.25	0.00	48.00		
ICAR Institutes (ICAR Share)									
CIRB, Sub Campus Nabha	0.00	0.60	18.250	0.00	1.00	0.00	19.85	19.85	0.00
IGFRI, Jhansi (UP)	0.00	0.60	28.00	1.50	1.00	0.00	31.10	31.10	0.00
NDRI, Karnal (Field Unit)	0.00	0.60	14.00	1.00	0.00	0.00	15.60	15.60	0.00
CIRB, Hisar (Field Unit)	0.00	0.60	10.00	1.00	0.00	0.00	11.60	11.60	0.00
Bull cert. lab., CIRB Hisar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coordinating Unit, Hisar	0.00	2.00	2.00	1.00	0.00	0.00	5.00	5.00	0.00
Grant Total	218.00	12.20	384.25	16.50	19.00	13.00	662.95	518.00	144.94
Net ICAR Share	163.50	10.25	306.25	13.50	14.75	9.75	518.00		
State Share	54.50	1.95	78.00	3.00	4.25	3.25	144.94		

PARTICIPATING CENTRES (As on 31.03.2016)

Coordinating Unit, CIRB, Hisar

Sr No	Name of centre	Breed	Year of start
Agricultural University based centers			
I	GADVASU, Ludhiana	Murrah	1993
II	LUVAS, Hisar	Murrah	1993
III	JAU, Junagarh	Jaffarabadi	2001
IV	RAJVASU, Vallabhnagar	Surti	2001
V	MPKV, Kolhapur	Pandharpuri	2001
VI	AAU, Khanapara	Swamp	2001
VII	Field Unit GADVASU, Ludhiana	Murrah	2001
VIII	LRS, Mamnoor	Murrah	2012-13
ICAR Institute based Centres			
I	IGFRI, Jhansi	Bhadawari	2001
II	CIRB, Sub - Campus Nabha	Nili-Ravi	2001
III	Field Unit NDRI, Karnal	Murrah	2001
IV	Field Unit CIRB, Hisar	Murrah	2001
V	Bull Cert. Lab., CIRB, Hisar	All breed	2001
Non funded participating centers			
I	IVRI, Izatnagar	Murrah	1993
II	NDRI, Karnal	Murrah	1993
III	CIRB, Hisar	Murrah	1993
IV	ICAR Res. Comp. ER Patna	Murrah	2014
V	KVASU, Pookode (Kerala)	Murrah	2014

Scientists Meets:	**Place**	**Duration**
1st Scientist meet	GAU, Junagarh,	February 10-11, 1993
2nd Scientist meet	PAU Ludhiana	April 28 – 29, 1994
3rd Scientist meet	RAU, Udaipur	November 2 - 3 , 1995
4th Scientist meet	PAU, Ludhiana	July 28 – 29, 2000
5th Scientist meet	AAU, Khanapara	January 3- 4, 2002
6th Scientist meet	MPKV, Kolhapur	April 5 - 6, 2005
7th Scientist meet	CIRB, Hisar	April 4 - 5, 2007
8th Scientist meet	JAU, Junagadh	March 5 - 6, 2009.
Midterm Review meet	CIRB, Hisar	December 5, 2009
9th Scientist meet	CIRB, Hisar	November 27-28, 2010
10th Annual Review Meet	Bhuj, Gujarat	September 2 - 3, 2011
11th Annual Review Meet	NDRI, Karnal	August 24, 2012
12th Annual Review Meet	LRS Vallabhnagar	September 09-10, 2014
13th Annual Review Meet	CIRB, Hisar	September 23-24, 2015

CENTRE WISE PERFORMANCE, RESEARCH ACHIEVEMENTS AND

PROJECT COORDINATOR OBSERVATIONS

Participating Institutional herds of Murrah Breeds

1.	**CIRB Hisar**	Non funded	ICAR based
2.	**NDRI Karnal**	Non funded	ICAR based
3.	**IVRI Izatnagar**	Non funded	ICAR based
4.	**GADVASU Ludhiana**	Funded	SVU based
5.	**LUVAS, Hisar**	Funded	SVU based
6.	**LRS Mamnoor**	Funded	SVU based
7.	**ICAR Res. Complex for ER Patna**	Non funded	ICAR Based
8.	**KVASU Pookode**	Non funded	SVU Based

Objective: The objective of the project is to envisage and undertake progeny testing for improvement of various breeds of buffaloes through variouscentres in different parts of the country. Priority and emphasis to be on performance recording and improvement of Murrah, Nili Ravi, Jaffarabadi, Surti, Bhadawari, Pandharpuri and Swamp breeds and on semen quality testing laboratory.

Technical Programme: The technical programme involves testing of 12-15 bulls on about 1000 breedable buffaloes at organised farms at GADVASU, Ludhiana; CIRB, Hissar; NDRI, Karnal; IVRI, Izatnagar; LRS, Mamnoor and KVASU, Pookode in every 18-month's cycle. From each bull 75-80 pregnancies are to be obtained so that 20-25 recorded daughters per bull are available at all the centres for the evaluation of bulls. The bulls will be ranked on the basis of performance of their daughters and 20% of them will be selected as proven bulls from each set. The semen of the proven bulls will be used on elite buffaloes at different centres for the production of future sires and herd replacements.

A. Growth rate targets :-

Age group	Target growth rate (g) per day		Expected body weight at terminal age (kg)	
	Female	Male	Female	Male
Birth-6 mths	450	450	112	112
6-18 mths	500	550	294	312
18-24 mths	400	530	367	410
24-30 mths	400	450	440	520
30-36 mths	300	350	495	584

N.B. Average birth weight, 30kg

B. Reproduction and production targets:-

i.	Av. age at first service	= 24 months (300kg B. wt.)
ii.	Av. age at first calving	= 40 months
iii.	AV. age for initiating training of bulls	= 18 months (350 kg B. wt.)
iv.	Av. age at first collection	= 30 months (400 kg B .wt.)
v.	Av. service period	= 130 days
vi.	Calf mortality (0-3 mths)	= $\leq$ 5 %
vii.	Wet average	= $\geq$ 8.5 kg
viii.	Herd average	= $\geq$ 5.5 kg

ICAR-CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES, HISAR (MAIN UNIT)

1. Name of Center — CIRB, Hisar
2. Project Code — Specified
3. Project Title — Net work Programme on Buffaloes Improvement
4. Date of Start — 1993-1994
5. Objectives — Specified
6. Technical Programme — Specified
7. Financial Statement — -
8. Staff Position: -

9. Herd Performance — Enclosed Tables 9.1 to 9.21

9.1 Herd Strength during the Period April 2015-16

	Category	Addition			Disposal			
Sr. N.		OB	B	T	D	T	S/A	Exptl	CB
	Female								
1.	Female Calves below 3 months	15	68	--	6	57	--	--	20
2.	Female Calves 3-6 months	18	--	57	3	58	--	--	14
3.	Female Calves 6-12 months	39	--	58	--	71	--	--	26
4.	Heifers above								
	1-2 years	62	--	71	1	61	2	--	69
	2-2.5 years	18	--	61	--	53	--	--	26
	Above 2.5 years	48	--	53	--	24	11	--	66
5.	Buffaloes in Milk	144	--	139	12	157	5	--	120
	Buffaloes dry, P & NP	41	--	157	2	115	22	16	43
6.	Sub Total	385	68	596	13	596	40	16	384
	Male								
1.	Male Calves below 3 months	12	71+2	--	2	68	--	--	14
2.	Male Calves 3-6 months	23	--	68	1	70	2	--	18
3.	Male Calves 6-12 months	30	--	70	2	64	4	--	30
4.	Male above								
	1-2 years	30	--	62+1	--	16	48	--	28
	2 -2.5 years	6	--	16	--	9	5	--	8
5.	Breeding bulls ≥ 2.5 yrs	9	--	8+4*	--	--	5	--	16
6.	Teaser / Exptl.	5	2	2	--	--	--	--	7
	Sub Total	115	71+4	227	5	227	64	--	121
	Grand Total	500	139+4	823	18	823	104	16	505

OB = Opening Balance D = Deaths S = Sale A= Auction *Purchase
B = Births T = Transfer CB = Closing Balance
Note: 4 (3 transfer from LUVAS, 1 Purchased from HLDB)

9.2 Calving Statistics during the period April 2015 to March, 2016

Month	Male		Female		Still Birth		Overall	
	No.	%	No.	%	No.	%	No.	%
April-2015	4	2.88	3	2.16	--	--	7	5.04
May	1	0.72	2	1.44	--	--	3	2.16
June	2	1.44	3	2.16	--	--	5	3.60
July	5	3.60	3	2.16	--	--	8	5.76
August	7	5.04	9	6.47	--	--	16	11.51
September	12	8.63	14	10.07	--	--	26	18.71
October	13	9.35	5	3.60	--	--	18	12.95
November	3	2.16	5	3.60	--	--	8	5.76
December	9	6.47	4	2.88	--	--	13	9.35
January-2016	5	3.60	5	3.60	--	--	10	7.19
February	3	2.16	8	5.76	--	--	11	7.91
March	7	5.04	7	5.04	--	--	14	10.07
Overall	**71**	**51.08**	**68**	**48.92**	**--**	**--**	**139**	**100**

9.3. Disposal of Animals during the Period April 2015 to March, 2016

Female							
Category	Surplus	Repd. Problem	Weak & Old	Off breed	Death	Sale	**Total**
1.Female Calves							
< 6 months	--	--	--	--	9	--	**9**
6-12 months	--	--	--	--	--	--	**--**
2. Heifers				--		--	
1-2.5 years	1	--	1		1		**3**
> 2.5 years	1	8	2		--		**11**
3. Buffaloes	9	10	8	--	3	--	**30**
Total	11	18	11	--	13	--	**53**
Male							
1.Male Calves				--			
< 6 months	1	--	--	--	3		**4**
6-12 months	1	--	--		2	4	**7**
2. Above 1 -2	2	--	--	--		46	**48**
3. Young Bulls2-2.5	1	--	--	--		4	**5**
4. Breeding bulls >2.5	1	1	--	--		3	**5**
5. Teaser	--	--	--	--		--	**--**
Sub Total	6	1	--	--	5	57	**69**
Grand Total	17	19	11	--	18	57	**122**

9.4. Month-wise Mortality during the Period April 2015 to March, 2016

Month / Morality		Female						Male					Over all Herd
		0-3	3-6	6-12	1-2 Yrs.	Above 2 Yrs.	Overall Female	0-3	3-6	6-12	Above 1 Yrs.	Overall Male	
Over all	No	**83**	**74**	97	**133**	**180**	**453**	**85**	91	1002	139	188	639
	Died	**6**	**3**	--	**1**	**3**	**13**	**2**	1	2.00	--	5	18
	%	**7.2**	**4.0**	--	**0.75**	**1.6**	**2.86**	**2.35**	1.1		--	2.6	2.8

Overall calves mortality = 4.76 % (8/168)

9.5. Causes of Mortality (quarter wise) during the period April, 2015 to March, 2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter	Total
A. Respiratory System :	**--**	--	--	--	**--**
1. Pheumo-Enteritis	--	2	--	3	**5**
2. Broncho-Pheumonia	2	4	1	1	**8**
B. Digestive System :	**--**	--	--	--	**--**
1. Enteritis	1	1	--	--	**2**
2. Septicamia & Toxaemia	--	--	--	--	**--**
3. Haem. Enteritis	1	--	-	--	**1**
C. Circulatory		1	--	--	**1**
D. Others	--	--	--	--	**--**
1. Miscellaneous	1	--	--	--	**1**
Total	**4**	**8**	**1**	**4**	**18**

9.6 Prophylactic Measures Taken During the Period April 2015 to March, 2016

During the period under report all calves up to the age of one year were treated for parasitism at regular interval. Deworming also done in adult animals as per their symptoms and health conditions. Animals were vaccinated against FMD and HS.

9.7 Calving Abnormalities (Quarter wise) during the period April 2015 to March, 2016

Quarter	No. of Calv.	Dystocia		Retention of Placenta		Prolepses		Others (Still births)		Total	
		No	%	No	%	No	%	No	%	No.	%
I	15	1	0.72	1	0.72	1	0.72	--	--	3	2.16
II	50	-	--	1	--	--	--	--	--	1	0.72
III	39	-	--	--	--	--	--	--	--	--	--
IV	35	-	--	--	--	--	--	--	--	--	--
Overall	139	1	0.72	2	1.44	1	0.72	--	--	4	2.88

9.8. Female Conception Rate During the Period January to December 2016

Heifer / Buffalo	No. of A I												Overall		
	I			II			III			IV					
	A I	C	CR %	AI	C	CR %	A I	C	CR%	A I	C	CR %	AI	C	CR %
Heifers	39	16	41.0	19	7	36.8	7	3	42.9	9	6	66.7	84	32	38.1
Adults	91	50	54.9	71	47	66.2	15	8	53.3	19	6	31.6	192	111	57.8
Overall	130	66	49.6	90	54	60.0	22	11	50.0	28	12	42.8	276	143	**51.8**

AI = Animals inseminated C = Animals conceived CR % = Conception rate in percent

9.9. Bull-wise Conception Rate (January to December, 2015)

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	1693	23	14	60.9
2.	2429	10	3	33.3
3.	4403	16	3	18.7
4.	2459	20	11	55.0
5.	M-51	8	2	25.0
6.	4363	13	5	38.5
7.	6405	17	11	64.7
8	2045	11	9	81.8
9	2412	17	7	41.2
10	4328	17	10	55.5
11	M-53	17	7	41.2
12	4354	15	12	80.0
13	M-188	4	2	50.0
14	4438	15	10	66.7

15	2371	23	9	39.1
16	4324	23	12	52.2
17	6139	11	6	54.5
18	2417	9	3	33.3
19	6007	6	2	33.3
Over all		**276**	**143**	**51.8**

9.9.1 Month-wise Conception Rate (January to December 2015)

Sr. No.	Months	No. of A I	Preg. Animals	CR %
1	January	20	11	55.0
2	February	29	16	55.2
3	March	20	8	40.0
4	April	23	12	52.2
5	May	23	13	56.5
6	June	13	6	46.1
7	July	17	7	41.2
8	August	14	6	42.9
9	September	18	10	55.5
10	October	36	20	55.5
11	November	25	12	48.0
12	December	38	22	57.9
13	**Overall**	**276**	**143**	**51.8**

9.10 Semen production and dissemination 2015-16 (CIRB Hisar)

A. Progeny tested bulls

Sr.	Bull (Set)	O.B.	Received	Sold	Supp	Exp.	Closing balance	% superiority	Dam's best lactation MY	Daughter first lact. MY
1.	M-1875-VIII GAD	44	0	0	0	0	44	24.89	2714(3)	2357/8
2.	392-I CIRB	121	0	5	0	0	116	22.8	2594	2074/13
3.	M-1506- IV GAD	349	0	0	0	0	349	18.81	3018	2065.1
4.	1796-VII- GAD	11	0	0	0	0	11	15.81		
5.	4915-VII NDRI	21	0	0	0	0	21	17.26		
6.	M-1717– VI GAD	70	0	0	0	0	70	15.32	2775	2096/5
7.	4371–V NDRI	275	0	0	0	0	275	14.90	3258	1971/22
8.	1153-HAU-VI CIRB	2140	0	0	0	0	2140	13.31	2675	2022.8/21
9.	4813–VIII NDRI	40	0	0	0	0	40	12.59	3016(1)	2148/7
10.	1153-III CIRB	2799	0	0	0	0	2799	12.27	2540	1934
11.	M-1994- IX GAD	1460	0	190	0	0	1270	11.73	2938	2431.7/18
12.	M-1451-IV GAD	448	0	0	0	0	448	10.44	3401	1951.4/10
13.	1061-III CIRB	5103	0	2503	0	0	2600	9.50	2846	1902
14.	2422-VIII CIRB	3835	0	10	0	0	3825	9.41	3369(4)	2092/7
15.	761- II CIRB	5195	0	2480	20	0	2695	9.37	2578	1960.4
16.	4506-VI NDRI	145	0	0	0	0	145	9.29	3512	1981.7/10
17.	1165-III CIRB	4500	0	500	0	0	4000	8.50	2627	1912
18.	M-1437–IV GAD	425	0	0	0	0	425	8.11	3127	1909.1
19.	4245–V NDRI	400	0	0	0	0	400	7.96	3215	1920/13
20.	1319-IV CIRB	3202	0	60	0	0	3142	6.99	2538	1829.6
21.	1933-VI CIRB	4119	0	0	0	0	4119	6.92	2650	1931.9/14
22.	3567-I NDRI	499	0	0	0	0	499	6.4	2877	1813/20
23.	896-I CIRB	144	0	0	0	0	144	5.5	3003	1796/26
24.	4395–V	118	0	0	0	0	118	5.48	3344	1885/12
25.	3930–III NDRI	1040	0	0	0	0	1040	5.42	2912	1845
26.	2331-VII CIRB	366	0	0	0	0	366	4.85	2664	1904/9
27.	1131-III CIRB	100	0	0	0	0	100	4.56	2827	1934
28.	2308-VIII CIRB	662	0	0	0	0	662	4.51	2655(3)	2003/9
29.	4807-VII NDRI	70	0	0	0	0	70	3.98	3437	2039/17

30.	93-II CIRB	90	0	0	0	0	90	3.96	22kgPY	1874.1
31.	1798- V CIRB	599	0	0	0	0	599	3.85	2753	1876/8
32.	5197-IX NDRI	356	0	0	0	0	356	3.76	-	2316.3/12
33.	829- II CIRB	6818	0	2493	0	0	4325	3.53	2626	1877.8
34.	3966–III NDRI	260	0	0	0	0	260	3.31	3700	1804/14
35.	2250-VIII CIRB	100	0	0	0	0	100	2.94	2748(5)	1978/4
36.	759- II CIRB	2067	0	843	0	0	1224	2.80	2650	1860.7
37.	2582-IX CIRB	113	0	0	0	0	113	2.8	2836	2279.5/24
38.	3638–II NDRI	865	0	0	0	0	865	2.41	3278	1857.5
39.	1023-III CIRB	2751	0	1120	0	0	1631	2.33	2710	1795
40.	5112- IX NDRI	721	0	0	0	0	721	2.23	2831	2268.2/30
41.	2720-IX	164	0	0	0	0	164	1.91	2664	2274/15
42.	5049–VIII NDRI	70	0	0	0	0	70	1.87	2912	2158.7/22
43.	3551–II NDRI	140	0	0	0	0	140	1.49	3898	2837.5
44.	1641-V CIRB	2015	0	0	0	0	2015	1.29	2753	1818/10
45.	M-1253 –II GAD	38	0	0	0	0	38	1.29	3348	1844
46.	M-1867-VIII GAD	436	0	0	0	0	436	0.90	2709(1)	1941/2
47.	M-1903-IX GAD	138	0	0	0	0	138	0.68	2718	2250/20
48.	1575-IX CIRB	102	0	0	0	0	102	0.09	3194	2240.8/18
49.	2990-X CIRB	1725	0	1	30	0	1694	1.06	2655	2272/7
50.	3103-X CIRB	2460	0	1	0	0	2459	1.18	2942	2337/5
51.	1693-X CIRB	1808	0	50	110	0	1648	1.23	3194	2803/3
52.	507-X CIRB	4871	0	0	0	0	4871	0.19	2572	2464/2
Total		**66408**	**0**	**10256**	**160**	**0**	**55992**			

B. Tested bulls under different sets

Sr.	Bull no (Set)	O.B.	Sold	Supp/ share.	Exp.	Balance	% superiority	Dam's best lactation	Daughter first lact.
1.	1944-VI CIRB	150	0	0	0	150	-11.11	5752	1622.6/5
2.	M-1536–V GAD	276	0	0	0	276	-1.14	3786	1774/11
3.	1509-VIIICIRB	114	0	0	0	114	-14.84	3690(4)	1648/4
4.	4865–VIII NDRI	40	0	0	0	40	-4.41	3392(2)	1958/9
5.	2592-IX CIRB	175	0	0	0	175	-10.53	3336	2097.8/28
6.	5218-IX NDRI	172	0	0	0	172	-5.38	3333	2158.7/22
7.	1135 -VI CIRB	134	0	0	0	134	-10.59	3250	1637.4/10
8.	M-1749-VII GAD	70	0	0	0	70	-4.98	3182	1702/08
9.	3098-I NDRI	455	0	0	0	455	-8.2	3164	1589/18
10.	1491-V CIRB	895	0	0	0	895	-4.19	3148	1696/8
11.	M-1727-VII GAD	49	0	0	0	49	-4.78	3098	1697/7
12.	2910-IX CIRB	149	0	0	0	149	-0.03	3062	2239/19
13.	1419–VII CIRB	267	0	0	0	267	-1.08	3042	1785/20
14.	1363-IV CIRB	100	0	0	0	100	-11.53	3031	1580.4
15.	1084-III CIRB	100	0	0	0	100	-14.4	3007	1562
16.	1171-III CIRB	458	0	0	0	458	-10.41	3007	1466/5
17.	M-1667-VI GAD	60	0	0	0	60	-5.39	2988	1726.6/10
18.	993-III CIRB	100	0	0	0	100	-4.19	2976	1704/16
19.	M-1555–V GAD	177	0	0	0	177	-3.39	2948	1706/6
20.	1341-IV CIRB	100	0	0	0	100	-7.08	2878	1663.4
21.	M-1315-III GAD	268	0	0	0	268	-0.62	2808	1746
22.	1749-V CIRB	173	0	0	0	173	-15.54	2796	1247/4
23.	1538-IV CIRB	100	0	0	0	100	-12.04	2786	1553.4
24.	M-1940- IX GAD	294	0	0	0	294	-2.29	2775	2200.5/17
25.	M-1893-VIII GAD	150	0	0	0	150	-10.48	2753(1)	1728/3
26.	1836-VI CIRB	135	0	0	0	135	-0.25	2744	1814.3/9
27.	M-1913- IX GAD	403	0	0	0	403	-01.21	2740	2216.7/14
28.	M-1746-VII GAD	40	0	0	0	40	-7.08	2718	1696/13
29.	2028-VI CIRB	144	0	0	0	144	-1.44	2689	1568.6/8
30.	1922-VI CIRB	100	0	0	0	100	-4.49	2684	1746.2/18

31.	M-1964- IX GAD	15	0	0	0	15	-6.23	2672	2147.8/23
32.	2363-VII CIRB	155	0	0	0	155	-6.18	2654	1739/24
33.	M-1434-IV GAD	6	0	0	0	6	-11.00	2640	1547.2
34.	M-1290–II GAD	484	0	0	0	484	-6.92	2628	1711.1
35.	M-1868-VIII GAD	162	0	0	0	162	-10.05	2591(3)	1736/3
36.	2184-VII CIRB	190	0	0	0	190	-4.11	2574	1759/19
37.	2522-VIIICIRB	100	0	0	0	100	-12.04	2567(5)	1706/7
38.	1360-IV CIRB	367	0	0	0	367	-0.31	2537	1714.2
39.	1485- V CIRB	1026	0	0	0	1026	-19.43	2523	1530/18
40.	2479-VIIICIRB	100	0	0	0	100	-4.59	2519(5)	1938/13
41.	M-1573-V GAD	181	0	0	0	181	-5.99	1866	1638/6
42.	M-1268–II GAD	265	0	0	0	265			
43.	3631-X CIRB	4638	0	0	0	4638	-1.16	18 kg PY	
Total		**13537**	**0**	**0**	**0**	**13537**			

C. Test bulls from set XI- XIV

Sr.	Bull (Set)	O.B.	Doses produced /received	Sold	Supp/ share.	Expt l.	Balance	Dam's best lactation yield in 305 day or less	Dam's av. yield in 305 day or less
1.	3226-XI CIRB	4108	0	0	0	0	4108	2655	2258/8
2.	3255-XI CIRB	2870	0	0	0	0	2870	3051	2631/5
3.	3267-XI CIRB	4135	0	0	320	0	3815	2489	2489/1
4.	HAU-12-XI CIRB	5084	0	0	0	0	5084	2858	2698/4
5.	3591-XI CIRB	4435	0	0	250	0	4185	2598	2598/1
6.	3598-XII CIRB	5214	0	0	0	0	5214	2655	2321/8
7.	183-HAU-XII	5850	0	0	0	0	5850	2824	2257/5
8.	R-10-XII CIRB	1851	1230	220	1057	0	1804	26 kg/d	
9.	R-11-XII CIRB	1078	0	0	0	0	1078		
10.	4059-XIII CIRB	6136	0	0	0	0	6136	2510	2078/2
11.	3964-XIII CIRB	4627	0	0	0	0	4627	3369	2563/9
12.	4440 XIII CIRB	13273	0	0	0	0	13273	2850	2746/3
13.	4441 XIII CIRB	12691	0	0	0	0	12691	3805	3077/6
14.	4442-XIII CIRB	13279	0	0	0	0	13279	2882	2449/7
15.	5489-XI NDRI	665	0	0	0	0	665	3031	3031/1
16.	5496-XI NDRI	410	0	0	0	0	410	2780	2638/2
17.	5516-XI NDRI	660	0	0	0	0	660	2765	2609/2
18.	5943-XIII NDRI	85	0	0	0	0	85	3232	2792/4
19.	M-2045-X GAD	1297	0	0	112	0	1185	3369	3091/3
20.	M-2062-X GAD	848	0	0	0	0	848	2672	2092/4
21.	M-2073-X GAD	446	0	0	0	0	446	2717	2440/3
22.	M-2074-X GAD	527	0	0	0	0	527	3050	2866/6
23.	M-2083-X GAD	379	0	0	0	0	379	3063	2411/4
24.	M-2133-XI GAD	56	500	0	0	0	556	2844	2717/3
25.	M-2148-XI GAD	120	0	0	0	0	120	3008	2444/8
26.	M-2154-XI GAD	100	0	0	0	0	100	2593	2142/2
27.	M-2176-XII GAD	210	0	0	0	0	210	5754	2463/5
28.	M-2177-XII GAD	293	0	0	0	0	293	3024	2721/8
29.	M-2185-XII GAD	343	0	0	0	0	343	3423	2439/8
30.	M-2234-XIII GAD	75	0	0	0	0	75	3114	2770/4
31.	M-2269-XIII GAD	93	0	0	0	0	93	3617	3138/2
32.	M-2304-XIII GAD	98	0	0	0	0	98	3114	2770/4
33.	ND2-X NDAUT	137	0	0	0	0	137	2583	2094/3
34.	ND6-XI NDAUT	360	0	0	0	0	360	2702	2509/2
35.	ND8-XI NDAUT	340	0	0	0	0	340		
36.	4439-XIV CIRB	8650	0	193	0	0	8457	22 kg PY	
37.	4093-XIV CIRB	8852	0	177	0	4	8671	3040	2692/3
38.	4196-XIV CIRB	8520	0	210	0	0	8310	3304	2842/2
39.	4100- XIV CIRB	9218	0	13	0	0	9205	2971	2530/3
40.	6014-XIV NDRI	990	0	0	0	0	990	3072	2939/2

41.	6044-XIV NDRI	380	0	0	0	0	380	3567	3338/2
42.	6136-XIV NDRI	1160	0	0	0	0	1160	4341	4135/3
43.	M-2369-XIV GAD	4400	0	0	0	0	4400	3114	2779/5
44.	M-2357-XIV GAD	2200	0	0	0	0	2200	3559	2952/3
Total		**136543**	**1730**	**813**	**1739**	**4**	**135717**		

D. XV and XVI set bulls

Sr. #	Bull # (-Set)	O.B.	Doses produced / received	Sold	Supp/ share.	Exp.	Balance	Dam's best lactation yield in 305 day or less	Dam's av. yield in 305 day or less
1.	4354	13040	12385	7178	620	119	17508	3605	3600/2
2.	4324	7586	1114	505	1700	0	6495	3528	3179/2
3.	4438	7878	19615	6314	1845	119	19215	3222	3222/3
4.	4363	5944	12813	1350	1795	100	15512	3068	2357/4
5.	4403	3584	10334	345	1667	129	11777		
6.	4328	8241	15237	4249	1945	195	17089		
7.	4889	0	6342	469	2040	120	3713	4120	
8.	4705	0	6765	100	2240	0	4425	3990	
9.	4592	0	2996	0	1515	0	1481	3528	
10.	M-29	0	529	0	0	0	529	4600	
11.	1027(LUVAS)	0	266	0	0	0	266	3763	
12.	1053(LUVAS)	0	500	0	350	0	150		
13.	6379 (NDRI)	0	500	0	200	0	300	3505	
14.	6409 (NDRI)	0	400	0	200	0	200	4090	
15.	6646 (NDRI)	0	3000	15	930	0	2055	3533	
16.	2371 GAD	0	6500	0	1080	0	5420	3053	2616/12
17.	2412 GAD	0	2450	0	1230	0	1220	2998	2998/1
18.	2417 GAD	0	6400	0	512	0	5888	3565	3287/3
19.	2429 GAD	0	6350	0	1242	0	5108	3435	2779/4
20.	2459 GAD	0	950	0	280	0	670	4636	3267/4
21.	6007 NDRI	0	850	0	430	0	420	3260	3260
22.	6139 NDRI	0	800	0	800	0	0	2828	2828/1
23.	6290 NDRI	24	700	0	724	0	0	4341	4135/3
24.	6405 NDRI	0	1443	0	440	0	1003	2743	2743/1
25.	2467 GAD	0	2445	0	390	0	2055		
26.	2501 GAD	0	1415	0	0	0	1415		
27.	2383 GAD	13040	12385	7178	620	119	17508		
Total		**59337**	**135484**	**27703**	**24795**	**901**	**141422**		

9.10 Semen Stock for the year 2015-16 : Brief report of semen freezing and dissemination given below:

- Opening balance on 1.4.2016 : 301877
- Semen Freezing : 96131
- Semen doses received : 47088
- Semen doses supplied / shared : 29413
- Semen doses sold : 41866
- Semen doses used for Experiment : 945
- Closing Balance : 372872

9.11 Production Performance of Buffaloes Completing Their Lactation During the period April 2015 to March, 2016.

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	60	2426	332	2261	10.17
2nd	42	2503	314	2364	11.48
3rd	25	2706	341	2517	12.51
4th	11	2414	300	2285	12.22
5th	07	2180	272	2114	11.49
6th& above	07	2472	297	2379	11.39
Overall	**152**	**2483**	**322**	**2336**	**11.17**

9.12 Production Performance of Buffaloes since Inception of Network

Year	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1991-92	1761±77(154)	374±9(154)	1552±60(154)	-
1992-93	1804±48(137)	395±8(137)	1508±34(137)	7.46
1993-94	1980±58(148)	419±7(148)	1686±46(148)	8.20
1994-95	1930±37(206)	334±5(206)	1787±0(206)	8.89
1995-96	1936±47(147)	313±7(147)	1855±42(147)	9.40
1996-97	1879±51(173)	313±7(173)	1775±45(173)	-
1997-98	1784±44(123)	304±6(123)	1688±37(123)	-
1998-99	1762±36(153)	284±16(153)	1702±33(153)	-
1999-00	2138±38(141)	313±4(141)	2042±31(141)	-
2000-01	1997±41(173)	306±9(173)	1914±36(173)	9.68
2001-02	1954±40(152)	290±4(152)	1898±35 (152)	9.71
2002-03	1987±39(148)	303±5(148)	1902±32(148)	9.20
2003-04	1910±37(148)	299±5(148)	1837±31(148)	9.18
2004-05	2017±40(167)	319±5(167)	1886±33(167)	9.33±0.16
2005-06	2047±45(149)	321±5(149)	1921±38(149)	8.76±0.19
2006-07	1994.9± 37(170)	322±4 (170)	1882±32(170)	9.23±0.15
2007-08	1954±38.02	299±4.66	1891±34.12	9.72±0.19
2008-09	2076(138)	325 (138)	1926 (138)	9.50 (138)
2009-10	2285(102)	361(102)	1995(102)	9.54(102)
2010-11	2471 (113)	337 (113)	2247 (113)	10.48 (113)
2011-12	2598 (116)	338 (116)	2374 (116)	12.29 (116)
2012-13	2478±54.36 (110)	318±6.14 (110)	2335±45.71 (110)	11.23 ± 0.23 (110)
2013-14	2494 ± 44.16 (98)	333 ± 6.92 (98)	2291± 58.25 (98)	11.03 ± 0.19 (98)
2014-15	2501.7±60.17 (110)	313.1 ± 5.57 (110)	2354.6±47.5 (110)	11.26 ± 0.17 (110)
2015-16	2483.1 ± 43.68 (152)	322.2 ± 4.91 (152)	2336.1 ± 33.4 (152)	11.17 ± 0.15 (152)

9.13 Average Milk Components (Month-Wise) April, 2015 to March, 2016 : NIL

9.14: Reproduction Performance of Buffaloes during the Period April 2015 to March, 2016

Traits		1	2	3	4	5	6	7 & above	Overall
Average Age at Calving (Months)	N ẋ SE	--	--	--	--	--	--	--	44.96 ± 1.23 (24)
Average Service Period (Days)	N ẋ SE	--	--	--	--	--	--	--	138.39 ± 7.39 (111)
Average Dry Period (Days)	N ẋ SE	--	--	--	--	--	--	--	140.78 ± 5.52 (111)
Average Calving Interval (Days)	N ẋ SE	--	--	--	--	--	--	--	449.26 ± 7.43 (111)

9.14.1 Reproduction Performance of Buffaloes Since inception of Network.

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
1991-92	51.0±0.8 (26)	236±11(108)	138±6 (74)	502±12(74)
1992-93	50.7±1.5 (27)	304±15(96)	132±7 (42)	489±16 (42)
1993-94	59.1±1.6 (48)	312±12(158)	230±14(161)	625±1 (161)
1994-95	55.3±1.3 (48)	202±15(105)	180±12(113)	527±10(116)
1995-96	51.51.5 (22)	193±10(149)	186±7 (149)	501±9 (152)
1996-97	47.6±1.0 (23)	182±10(149)	204±7 (173)	473±9 (152)
1997-98	45.5±0.5 (49)	175±14(106)	203±11(118)	491±10(118)
1998-99	50.0±0.1 (57)	137±9(121)	159±14(126)	455±10(126)
1999-00	46.2±1.0 (54)	138±9(104)	142±7 (120)	451±8 (120)
2000-01	46.2±1.2 (45)	146±9(151)	153±7 (154)	454±9 (154)
2001-02	49.8±0.8 (51)	146±11(125)	158±8 (135)	456±11(135)
2002-03	47.83±0.51(61)	133±9(126)	143±6 (128)	440±9 (130)
2003-04	50.52±0.84(77)	151±10(142)	147±7 (149)	458±10(151)
2004-05	48.18±0.82(76)	111±7(100)	134±6 (100)	426±7 (101)
2005-06	47.89±0.73(76)	184±12(112)	168±8 (117)	499±12(117)
2006-07	46.90±1.06(43)	183±10.11(113)	178±8 (116)	495±10 (116)
2007-08	48.27±0.64	159±11.55	177±9.26	482±12.06
2008-09	47.66±0.97 (44)	171±12.31 (80)	160±10.50 (85)	469±12.20 (85)
2009-10	49.22±0.75 (51)	212±16.64 (77)	170±12.99 (77)	520±16.21 (77)
2010-11	49.92±1.04 (35)	186±13.74 (80)	157±10.47 (83)	492±13.96 (83)
2011-12	51.91±0.98 (37)	181±13.24 (80)	155± 8.63 (81)	485±12.65 (81)
2012-13	44.48 ±1.42 (37)	174±11.53 (72)	153±8.19 (72)	481±11.87 (73)
2013-14	45.62±10.78(37)	190±11.27 (86)	170±9.77 (85)	495±11.64 (87)
2014-15	42.84±0.79 (61)	168.43 ± 8.31 (88)	149.33±6.46 (88)	472.92 ± 8.45 (88)
2015-16	44.96 ± 1.23 (24)	138.39±7.39 (111)	140.8 ± 5.52 (111)	449.26 ± 7.43 (111)

9.15 Month wise Milk Production and Disposal during the Period 4/1/ 2015 to 31/03/16

Month	Total milk produced (kg)	Disposal(Kg)		
		Liquid Milk	Calf feeding	Expt.
April, 2015	31503.5	29056.0	2447.5	--
May	26477.5	24728.0	1749.5	--
June	23101.0	21668.5	1432.5	--
July	21674.0	21124.5	449.5	--
August	20612.5	19933.0	679.5	--
September	22705.5	21172.5	1533.0	--
October	29689.5	26734.0	2955.5	--
November	30698.5	26447.5	4251.0	--
December	32057.0	27814.0	4243.0	--
January, 2016	33656.5	28720.0	4936.5	--
February	30201.5	26553.0	3648.5	--
March	31471.5	288287.0	3184.5	--
Total	333938.5	302238.0	31510	--

9.16 Feed and fodder (Quintals) purchased and offered to animals during the 4/1/ 15 to 31/03/16

Quarter	Type of Fodder	Old Balance	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
I	Green	---	5203.3	--	4668.7	534.6*
	Dry	1357	2387.8**	2623.8	2256.3	4112.3
	Silage	1101	534.6	--	1635.6	--
	concentrate	--	--	--	1559.75	--
II	Green	--	9907.3	1468.6	11455.9	--
	Dry	4112.3	---	1279.1	531.4	4860
	Silage	--	---	--	---	--
	concentrate	--	---	--	1487	--
III	Green	--	6709	--	6709	--
	Dry	4860	---	--	2287	2573
	Silage	--	---	--	---	--
	concentrate	--	---	--	1627.65	--
IV	Green	--	13816.05	--	10046.05	3770*
	Dry	2573	---	--	556	2017
	Silage	--	3770	--	---	3770
	concentrate	--	---	--	1751.04	--
Total	Green	--	35715.65	1468.6	32879.65	4304.6*
	Dry	1357	2387.8	3902.9	5630.7	2017
	Silage	1101	4304.6	---	1635.6	3770
	concentrate	---	---	--	10305.1	--

** 631.30 Quintal-CIRB and 1756.80 quintal from DWR

* Silage made from the green fodder

Table 9.17: Milk performance during April 15 to March 16

Month	Buffaloes in Milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April 2015	146	40	186	78	7.17	5.62
May	134	53	187	71	6.39	4.57
June	119	69	188	63	6.45	4.08
July	106	85	191	55	6.65	3.69
August	91	76	167	54	7.37	3.99
September	96	67	163	59	7.87	4.63
October	108	60	168	64	8.88	5.69
November	107	62	169	63	9.55	6.05
December	110	63	173	64	9.38	5.96
January 2016	116	58	174	67	9.38	6.26
February	114	59	173	66	9.15	6.04
March	117	46	163	72	8.65	6.23
overall	**114**	**62**	**176**	**65**	**8.04**	**5.21**

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
1991-92	182	147	329	55.3	4.70	2.61
1992-93	165	111	276	60.60	4.80	2.83
1993-94	153	125	178	55.00	5.65	3.10
1994-95	181	85	266	68.10	6.09	4.15
1995-96	153	82	235	65.19	6.43	4.19
1996-97	122	83	205	59.56	5.62	3.35
1997-98	121	76	197	61.38	6.12	3.75
1998-99	133	73	206	64.52	6.77	4.37
1999-00	137	72	209	65.48	6.85	4.49
2000-01	148	78	226	65.39	6.68	4.37
2001-02	147	70	217	67.70	6.59	4.46
2002-03	143	71	214	67.00	6.27	4.20
2003-04	151	72	223	67.69	6.49	4.39
2004-05	154	69	224	68.97	6.39	4.40
2005-06	151	77	238	66.37	6.57	4.36
2006-07	137	92	229	59.81	6.45	3.86
2007-08	146	71	217	67.32	6.64	4.47
2008-09	133	66	199	66.00	6.50	4.35
2009-10	106	65	171	62.00	7.01	4.35
2010-11	109	64	173	62.97	7.45	4.69
2011-12	110	58	168	65.38	7.83	5.12
2012-13	109	69	178	62.24	7.74	4.76
2013-14	105	65	170	61.78	8.01	4.95
2014-15	116	50	166	69.97	8.25	5.77
2015-16	**114**	**62**	**176**	**65**	**8.04**	**5.21**

9.18: Bull wise daughters born during the period April, 2015 to March, 2016

Bull No.	Daughters born	Dau"s A.F.C.	Daughters compt. 1st Lact	Last Lact.
2412	2			
4196	1			
Virat	2			
6044	2			
4354	7			
4324	4			
6139	1			
2371	1			
2417	4			
2045	2			
6290	10			
6007	2			
2459	2			
4328	5			
4363	6			
R-10	1			
1693	5			
4438	8			
2429	2			
4403	2			
M-53	3			
M-188	1			
Total	**71**			

9.19 Bull wise daughters completing 1ST lactation during the period April 2015 to March, 2016

Sr. No.	Bull No.	Dau. No.	Date of birth	Date of calving	305 days or less MY (kg)	TLMY	Lact. Length (days)
1	1796	4449	09.04.12	22.01.15	2422	2186	352
		4388	26.11.11	29.11.14	2944	2316	417
		4276	08.12.10	23.09.14	1846	1846	227
		4421	18.02.12	01.01.15	2212	2212	294
2	2177	4361	19.09.11	09.03.15	2548	2548	328
		4299	16.01.11	10.10.14	2012	2012	289
3	2133	4216	16.09.10	14.06.14	2989	2851	331
		4256	07.11.10	25.08.14	2424	2424	299
		4251	29.10.10	06.01.15	2407	2407	311
4	2148	4250	27.10.10	23.06.14	2393	2393	304
		4253	31.10.10	24.10.14	2140	2140	259
		4068	28.07.09	15.02.14	2719	2258	438
5	2176	4343	13.08.11	12.10.14	2459	2285	354
		4306	13.02.11	24.01.14	2819	2476	370
6	2185	4346	18.08.11	23.03.15	2163	2163	293
		4369	06.10.11	26.09.14	2067	2067	273
		4408	13.01.12	16.02.15	1956	1956	263
		4367	28.09.11	01.03.15	1991	1991	250
7	10	4321	18.04.11	21.07.14	2386	2082	391
		4401	24.12.11	22.01.15	1291	1291	225
		4385	22.11.11	20.10.14	2697	2385	374
		4298	15.01.11	28.11.14	2442	2301	343
8	11	4346	18.08.11	23.03.15	1853	1853	273
		4316	31.03.11	07.12.14	2653	2629	312
		4305	12.02.11	14.10.14	2203	2017	347
		4322	18.04.11	28.09.14	2680	2588	326
		4342	09.08.11	16.07.14	1883	1883	305
9	12	4249	26.10.10	01.10.14	2234	2234	254
		4241	16.10.10,	07.09.14	2835	2387	411
		4235	07.10.10	07.07.14	3534	2874	465
10	56	4307	16.02.11	11.07.14	2025	2025	295
11	220	4387	26.11.11	01.06.15	2118	2118	298
		4391	29.11.11	31.08.14	2451	2213	372
		4351	03.09.11	30.11.14	2341	2266	326
		4352	05.09.11	02.01.15	2369	2222	343
12	4915	4419	02.02.12	02.04.15	2291	2086	351
		4334	06.07.11	12.08.14	1935	1935	264
	3226	4230	05.10.10	05.08.14	1781	1781	271
		4234	07.10.10	01.08.14	2994	2360	416
13	3255	4218	18.09.10	08.11.14	4247	3157	454
		4223	25.09.10	15.11.14	2697	2534	320
		4214	15.09.10	01.01.15	2207	2207	309
14	3267	4252	29.10.10	19.04.15	2366	2336	327
		4237	10.10.10	12.08.14	2149	1937	361
15	3598	4337	19.07.11	06.07.15	2056	2056	242
		4364	27.09.11	06.09.14	1405	1405	265
		4340	06.08.11	23.09.14	2813	2543	359
16	3631	3989	21.09.08	18.07.14	2458	2458	289
		4091	06.09.09	14.02.14	3552	2749	430

17	5414	4208	30.08.10	23.07.14	2699	2691	338
18	5496	4232	05.10.10	17.08.14	1883	1883	300
		4271	03.12.10	07.08.14	2798	2310	448
19	5514	4190	14.03.10	11.10.14	2270	2270	278
20	5710	4349	26.08.11	27.01.15	2397	2210	395
		4413	21.01.12	05.12.14	2342	2342	300
21	5720	4372	09.10.11	27.11.14	2413	2413	308
		4285	24.12.10	25.09.14	3026	2843	378
		4267	23.11.10	19.10.14	2683	2308	397

9.20 List of Future breeding bulls

Sr. no.	Bull no.	D.O.B.	Dam No.	Sire No.	Dams best 305days or less yield (kg)	Remarks (Parity)
1.	4677	21/12/13	3225	1994	3069	5
2.	4687	20/01/14	3156	1994	3309	2
3.	4697	15/02/14	4091	4439	2750	1
4.	4715	27/03/14	3351	4093	3059	2
5.	4733	14/06/14	4216	6044	2851	1
6.	4742	06/07/14	3586P	1994T	3276	4
7.	4774	22/08/14	4114	Yuvraj	3065	2
8.	4837 ET	30/11/14	3417 Donor	2422	3076	2
9.	4868	15/01/15	3536	1994T	3107	3
10.	4876	27/01/15	3546	Yuvraj	2732	1
11.	4877	27/01/15	4125	Yuvraj	3125	1
12.	4898	21/04/15	3225	Virat	3069	5

9.21 Target achieved during the year 2015-16

Sr.No	Trait	Target	Achieved
1	Av. age at first calving	40.0 months	44.96 ± 1.23 (24)
2	Av. service period	130 days	138.39 ± 7.38 (111)
3	Calf mortality (0-3 months)	≤ 5 %	4.76
4	Wet average	≥ 8.50 kg	8.04
5	Herd average	≥ 5.50 kg	5.12

10. Salient Research Achievements:

i. The overall wet average and herd average reported **8.04 and 5.12** kg.

ii. The overall 305 days lactation milk yield and total lactation milk yield during April 2015 to March 2016 was reported 2336 and 2483 kg, respectively.

iii. The AFC during the period under report was observed 44.96 months. Service period (138.39 days) and calving interval (449.26 days) revealed significant improvement over last year performance.

iv. During the period April 2015 to March 2016 the total buffalo herd and calf mortality (0-3 month) was reported 2.87 and 4.87 percent, respectively.

v. The overall conception rate during the period under report was **51.81** percent, which was reported comparatively lower than the previous year **(52.34 %).**

vi. A total 96131 semen doses were frozen at the semen freezing Lab during 1st April 2015 to 31st March, 2016. A total of 41866 semen doses were sold and 29413 semen doses supply in network project.

Publications:

Book Chapters / Research Articles	:	3
Invited / Lead Papers	:	1
Papers presented in seminar / symposium and published	:	5
PG Research	:	1 (M V Sc.)

Project Co-ordinator's observations on centre performance

Herd Performance

The overall herd strength at the centre was 505 head, 139 calves (71 male and 68 female) were added due to birth. The breedable buffaloes were 255. During the period of report calf mortality (0-3 months) was 4.76 % (8/168). The female conception rate of 51.80 % at the farm is showing improvement over previous years. Total 96131 semen doses were frozen and 41866 doses were sold to different agencies and farmers. Semen were also collected from elite bulls of farmers at their doorstep on sharing basis, frozen semen doses are available from these elite bulls also at semen station.

Average lactation yield, lactation length, 305 or less day milk yield were 2483.11±43.68 kg (n=152), 322±4.91 day (n=152) and 2336.06±33.36 kg (n=152). The production performance was comparable to the last year performance. The reproduction parameters viz Age at first calving, Service Period, Dry Period and Calving Interval were 44.96±1.23 months (n=24), 138±7.39 days (n=111), 140.78±5.52 days (n=111) and 449.26±7.43 days (n=111) respectively. Wet and herd averages were 8.04 kg and 5.21 kg, respectively. SP, DP and calving interval reduced this year but AFC need to be improved.

Targets achieved during 2015-16

S. N	Trait	Target	Achieved
1.	Av. Age at first service (months)	24 (300 kg. B. wt.)	…
2.	Av. Age at first calving (months)	40	44.96 ±1.23
3.	Av. Age for initiating training of bulls (months)	18 (350 kg. B. wt.)	….
4.	Av. Age at first collection (months)	30 (400 kg. B. wt.)	--
5.	Av. Service period (days)	130	138 days
6.	Calf mortality (0-3 months)	$\leq$ 5 %	4.76 %
7.	Wet average	$\geq$ 8.5 kg	8.04 kg.
8.	Herd average	$\geq$ 5.5 kg	5.21 kg.

Recommendations:

1. More attention on heifer management to be given for reduction of AFC and calving interval in parous buffaloes.
2. Significant increase in the number of buffaloes in production.

GURU ANGAD DEV VETERINARY AND ANIMAL SCIENCES UNIVERSITY, LUDHIANA, MAIN UNIT

1. Name of Centre : Guru Angad Dev Veterinary & Animal Sciences University, Ludhiana

2. Project Code : F. No. 18(I) 2002- ASR- II

3. Project Title : Network Project on Buffalo Improvement

4. Date of Start : 01/04/1992

5. Objectives : As per NWP(B)

6. Technical Programme : The GADVASU centre of the all India Co-ordinated Research Project on Buffalo Breeding is one of the participating units of the Network Project on Buffalo Improvement from 1.4.1992. Broadly, the technical programme involves testing of 12-15 bulls on about 1000 breedable buffaloes at organised farms at GADVASU, Ludhiana; CIRB, Hisar; NDRI, Karnal; IVRI Izatnagar, HAU, Hisar and KVASU, Pookot in every 18-month's cycle. From each bull 75-80 pregnancies are to be obtained so that 20-25 recorded daughters per bull are available at all the centres for the evaluation of bulls. The bulls will be ranked on the basis of performance of their daughters and 20% of them will be selected as proven bulls from each set. The semen of the proven bulls will be used on elite buffaloes at different centres for the production of future sires and herd replacements.

7. Financial Statement: Statement showing budget sanctioned, amount spent and receipt realized for the period 1st April 2015 to 31st March 2016.

	Budget Sanctioned (Rs.)	**Amount Spent (Rs.)**
Pay & Allowances	40,66,857	39,09,783
T. A.	1,00,000	97,207
Contingencies		
i) Recurring Cont.	56,00,000	55.99,993
ii) Non-Recurring Cont.		
Livestock	5,00,000	5,00,000
Equipment	3,00,000	2,99,998
Total	**105,66,857**	**104,06,981**

Receipts: The project transferred 139689.0 kg of milk to the College of Dairy Sciences, GADVASU for sale after processing. The department sold 78 surplus/breeding animals and 36668 doses liquid & frozen semen to the progressive dairy farmers and dairy developed agencies.

8. Staff and Infrastructure Buildup during the year:

Staff in position :

Name & Designation of the person employed on the sanctioned post with pay scale	Date of joining	Date of leaving	Other project (assignment) in the institution besides the project	Total time spent for the project	Transfer or upgrading of the post if any, give details of sanction from the ICAR	Remarks
1. Simarjeet Kaur Asstt. Animal Geneticist In Rs. 15600-39100	01/02/12	-	-	Full time	-	-
2. Dr. Sikh Tejinder Singh Asstt Animal Health Specialist In Rs. 15600-39100	02/06/04	-	-	-do-	-	-
3. Sh. Kashmir Singh Statistical Assistant in Rs. 10300-34800	24/11/88	Retired on 30.11.2015	-	-do-	-	-
4. Smt. Baljit Kaur Statistical Assistant in Rs. 10300-34800	18/02/16	-		-do-	-	-

Herd performance :

9.1. Herd strength during the period 4/2015 to 3/2016

Sr. No.	Category	Addition			Disposal			CB
		OB	B/P	T	D	T	S	
	Female							
1.	Calves 0 – 3 months	9	17+2	0	2	17	0	9
2.	Calves >3 – 12 months	8	35	17	0	15	0	45
3.	Heifers							
	1 – 2 years	29	0	15	1	27	0	16
	> 2 years	54	0	27	2	26	2	49
4.	Buffaloes in Milk	58	1	26	0	0	13	55
5.	Buffaloes Dry P /NP	30	0	0	3	0	20	27
	Sub Total	188	55	85	7	85	35	201
	Male							
1.	Calves 0 – 3 months	14	29	0	1	27	2	12
2.	Calves >3 – 12 months	15	0	27	0	16	20	6
3.	Male above							
	1 – 2 years	13	0	16	1	9	11	9
	> 2 years	7	0	9	0	1	8	7
4.	Breeding bulls	12	0	1	0	0	3	10
5.	Bullocks	0	0	0	0	0	0	0
6.	Teasers	0	0	0	0	0	0	0
	Sub Total	61	29	53	2	53	44	44
	Grand Total	249	84	117	9	117	79	245

OB = Opening Balance D = Deaths S = Sale
B = Births T = Transfer CB = Closing Balance

9.2. Calving statistics during the period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	7	24.1	1	5.9	1	12.5	-	-	-	-	1	-	**8**	**17.0**
May	1	3.4	0	0.0	-	-	-	-	-	-	1	-	**1**	**2.1**
June	1	3.4	1	5.9	-	-	-	-	-	-		-	**2**	**4.3**
July	0	0.0	1	5.9	-	-	-	-	-	-	1	-	**1**	**2.1**
August	2	6.9	0	0.0	-	-	-	-	-	-		-	**2**	**4.3**
September	3	10.3	1	5.9	-	-	-	-	-	-		-	**4**	**8.5**
October	0	0.0	0	0.0	-	-	-	-	-	-		-	**0**	**0.0**
November	0	0.0	1	5.9	-	-	-	-	-	-		-	**1**	**2.1**
December	2	6.9	5	29.4	-	-	-	-	1	12.5	1	-	**8**	**17.0**
January,16	5	17.2	3	17.6	-	-	-	-	-	-		-	**8**	**17.0**
February	4	13.8	1	5.9	-	-	-	-	-	-		-	**5**	**10.6**
March	4	13.8	3	17.6	-	-	-	-	-	-		-	**7**	**14.9**
Overall	**29**	100.0	**17**	**100.0**	**1**	**2.12**			**1**	**2.12**	**4**	**7.8**	**47**	**100.0**

Sex ratio Male: Female = 1:0.58

9. 3. Disposal of animals during the period 4/2015 to 3/2016

Sr. No.		Surplus	Rep. Problem	Weak & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months	-	-	-	1	0	1
2.	Calves >3 – 12 months	-	-	-	0	0	0
3.	Heifers 1 – 2 years	-	0	-	1	0	1
	> 2 years	-	2	-	2	0	4
4.	Buffaloes in Milk	7	2	4	0	0	13
5.	Buffaloes Dry P /NP	4	11	5	3	0	23
	Sub Total	11	15	9	7	0	**42**
	Male						
1.	Calves 0 – 3 months	1	-	-	1	0	2
2.	Calves >3 – 12 months	22	-	-	0	1	23
3.	Male 1 – 2 years	7	-	-	1	0	8
	> 2 years	5	-	-	0		5
4.	Breeding bulls	2	-	-	0	0	2
5.	Bullocks	0	-	-	0	0	0
6.	Teasers	0	-	-	0	0	0
	Sub Total	37	-	-	2	1	**40**
	Grand Total	48	15	9	9	1	**82**

Bulls/bull calves sold for breeding purposes: 37

9.4. Month-wise mortality during the period 4/2015 to 3/2016

		Female						**Male**					
Month		**0-3 (mo)**	**3-6 (mo)**	**6-12 (mo)**	**1-2 yrs**	**Abo. 2 yrs.**	**Over all female**	**0-3 (mo)**	**3-6 (mo)**	**6-12 (mo)**	**Abo. 1 yr.**	**Over All male**	**Over All Herd**
Over all	No.	28	-	1	2	156	192	43	0	6	27	45	237
	Died	2	-	-	-	-	-	1	-	-	-	-	-
	%	7.14						2.34					

Calf mortality (0-3m) was 4.23 percent. (3/71)

9.5. Causes of Mortality (quarter-wise) during the period 4/2015 to 3/2016

Particulars	**1st quarter**	**2nd quarter**	**3rd quarter**	**4th quarter**
A. Respiratory System :	-	-	-	-
1. Broncho-Pheumonia	1	1	-	-
B. Digestive System :				
1. Enteritis	**2**	-	-	-
C. Circulatory	**1**	**1**	-	-
D. Others				
1. JD/TB	-	**1**	-	-
2. Miscellaneous	**1**	-	**1**	-
Total	**5**	**3**	**1**	-

9.6. Prophylactic measures taken during the period 4/2015 to 3/2016

Vaccination	No. of animals		Screening	No. of animals		No. of animals treated for Parasitism etc.
	Available	Inoculated		Tested	Results	
FMD	428	428	TB	181	--	No clinical case of parasitic infestation was observed during the year. All the animals were dewormed as per normal schedule
HS	691	691	JD	181	--	
BQ	233	233	Brucellosis	181	4 +ve	
RP	-	Nil				
Brucellosis	27	27				
TB		Nil				
JD		Nil				

9.7. Female conception rate during the period 4/2015 to 3/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Jan. 15	4	2	50	0	0	0	3	0	0	1	1	100	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	11	3	27.27
Feb.	9	5	55.55	3	3	100	2	2	100	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	5	1	20	22	11	50.00
March	9	7	77.77	2	2	100	1	0	0	0	0	0	0	0	0	1	1	100	3	1	33.33	0	0	0	0	0	0	16	11	68.75
April	2	1	50	1	1	100	1	0	0	5	2	40	0	0	0	0	0	0	10	4	40	0	0	0	2	0	0	21	8	38.09
May	3	2	66.66	2	1	50	4	2	50	8	0	0	1	0	0	0	0	0	11	3	27.27	3	1	33.33	3	0	0	35	9	25.71
June	1	1	100	0	0	0	1	0	0	0	0	0	2	0	0	1	1	100	1	1	100	2	1	50	2	0	0	10	4	40.00
July	0	0	0	0	0	0	0	0	0	7	2	28.57	0	0	0	0	0	0	6	3	50	2	0	0	1	1	100	16	6	37.5
Aug.	1	1	100	1	0	0	0	0	0	0	0	0	2	1	50	4	2	50	3	1	33.33	6	1	16.67	4	0	0	21	6	28.57
Sep.	0	0		2	0	0	1	1	100	0	0	0	3	0	0	3	1	33.33	1	0	0	2	0	0	12	4	33.33	24	6	25.00
Oct.	2	0	0	1	1	100	3	1	33.33	0	0	0	4	3	75	2	0	0	1	1	100	3	1	33.33	3	3	100	19	10	52.63
Nov.	2	2	100	1	1	100	2	1	50	0	0	0	3	2	66.66	2	1	50	2	0	0	2	0	0	3	2	66.66	17	9	52.94
Dec. 15	3	1	33.33	1	1	100	4	1	25	1	1	100	0	0	0	2	0	0	2	2	100	1	1	100	6	2	33.33	20	9	45.00
Total	36	22	61.11	14	9	64.28	22	8	36.36	22	6	27.27	17	6	35.29	16	6	37.5	41	16	39.0	21	5	23.80	43	13	30.23	232	92	**39.65**

I. = No. of animals inseminated C. = No. of animals conceived CR% = Conception rate %

9.8. Bull-wise conception rate during the period 4/2015 to 3/2016

Sr. No.	Bull No.	Total No. of AI	Total Conceived	CR %
1	1693	30	9	30.00
2	2045	11	1	9.09
3	2371	17	7	41.18
4	2412	29	18	62.07
5	2417	20	7	35.00
6	2429	10	4	40.00
7	2459	26	14	53.85
8	4324	14	5	35.71
9	4354	9	4	44.44
10	4363	7	2	28.57
11	4403	9	2	22.22
12	4438	11	3	27.27
13	4463	4	1	25.00
14	6007	14	5	35.71
15	6139	6	1	16.67
16	6290	14	3	21.43
17	6405	18	13	72.22
Total	Overall	249	99	**39.76**

9.9. Bull-wise semen stock 4/2015 to 3/2016

Sr. No	Bull No.	Set No	Opening Balance	Semen Prod./ Received	Consumption for AI/Supplied					Balance
					Dairy Farm	Field Unit	Other Agencies	Sold	Total Supply	
1	M2062	**10**	10	-	-	-	-	10	10	NIL
2	M2073	**10**	1421	-	-	-	-	830	830	591
3	M2074	**10**	2104	-	-	-	-	-	-	2104
4	M2083	**10**	1543	-	-	-	-	-	-	1543
6	M2148	**11**	2039	-	-	-	-	-	-	2039
7	M2154	**11**	3486	-	-	-	-	-	-	3486
8	M2176	**12**	3046	-	-	-	-	-	-	3046
9	M2177	**12**	3415	2090	-	-	-	55	55	5450
10	M2185	**12**	1741	-	-	-	-	-	-	1741
11	M2234	**13**	1285	-	-	-	-	-	-	1285
12	M2269	**13**	1133	-	-	-	-	-	-	1133
13	M2304	**13**	4015	4500	-	-	-	571	571	7944
14	M2357	**14**	3302	2105	-	-	-	-	-	5407
15	M2369	**14**	4103	1945	-	-	-	30	30	6018
16	M2371	**15**	3390	5675	60	700	-	-	760	8305
17	M2412	**15**	4180	5430	50	900	4000	555	5505	4105
18	M2417	**15**	6505	5180	80	2510	-	290	2880	8805
19	M2429	**15**	5395	5085	80	1428	4000	1168	6676	3804
20	M2459	**15**	4985	4403	30	485	4000	1799	6314	3074
21	M2383	16	-	5170	40	770	1415	2073	4298	872
22	M2467	16	-	1535	40		1443	-	1483	52
23	M2501	16	-	2915	40	430	2445	-	2915	-
Sub total			**57098**	**46033**	420	7223	17303	6541	31487	70804

Sr. No	Bull No.	Set No	Opening Balance	Semen Prod./ Received	Consumption for AI/Supplied					Balance
					Dairy Farm	Field Unit	Other Agencies	Sold	Total Supply	
Proven bulls										
24	156	1	718	-				10	10	708
25	888	2	1599	-						1599
26	458	3	442	-						442
27	293	4	1685	-						1685
28	558	5	2165	-						2165
35	610	6	330	-						330
36	M82	7	289	-						289
37	M432	8	34	-						34
38	M584	9	544	-						544
39	M675	10	94	-				15	15	79
40	M1354	NW3	2072	-						2072
41	M1437	NW4	3946	-						3946
42	M1451	NW4	3307	-						3307
43	M1506	NW4	4998	-						4998
44	M1796	NW7	4539	-						4539
45	M1875	NW8	3155	-				150	150	3005
46	M1994	NW9	1471	-		30			30	1441
47	M2045	NW10	317	-						317
48	M2133	NW11	1659	-	25	-	500	10	535	1124
Sub total			**33364**	**-**	**25**	**30**	**500**	**185**	**740**	**32624**
Grand Total			**90462**	**46033**	**445**	**7253**	**17803**	**6726**	**32227**	**103428**

9.10 Body weights since inception of Network

Year	At Birth	3 Months	6 Months	12 Months	18 Months	24 Months	At AFC	Adult
Female								
1991-92	32.08	54.53	78.74	143.86	238.40	297.26	433.07	
1992-93	30.64	51.40	87.89	161.61	203.40	293.26	399.31	
1993-94	32.71	61.53	93.14	160.38	222.27	284.25	440.92	
1994-95	30.62	59.92	93.91	165.60	242.29	304.86	435.68	
1995-96	31.11	62.02	87.98	154.51	236.73	322.04	441.69	
1996-97	31.48	65.96	97.06	174.88	242.09	330.71	476.09	
1997-98	29.27	59.87	95.59	168.95	252.98	318.33	455.27	
1998-99	29.13	62.68	92.62	187.02	269.70	343.06	458.21	
1999-00	30.27	60.59	86.46	163.34	277.21	342.58	461.34	
2000-01	31.74	61.32	94.43	159.20	243.10	329.79	490.33	
2001-02	32.44	62.04	94.96	188.23	271.09	341.46	512.25	
2002-03	34.26	62.12	95.02	187.45	287.49	368.89	485.89	
2003-04	32.00	61.57	92.04	160.65	261.52	349.24	461.74	
2004-05	31.67	59.85	90.61	168.47	265.27	354.22	486.85	
2005-06	30.57	70.23	96.21	162.58	235.74	314.75	481.06	
2006-07	30.94	65.11	104.38	169.75	246.33	324.79	516.50	
2007-08	29.47	59.68	91.76	171.21	238.38	322.80	480.07	
2008-09	31.62	62.69	99.45	180.28	274.86	352.00	507.28	
2009-10	30.04	60.49	104.76	194.36	281.54	361.78	500.69	
2010-11	31.35	61.50	101.58	202.80	306.67	380.00	477.14	
2011-12	29.77	65.31	96.40	183.75	267.71	359.11	469.25	
2012-13	31.08	62.63	106.07	222.56	311.48	380.00	492.42	
2013-14	29.35	67.46	110.68	217.78	301.91	376.20	543.75	
2014-15	30.50	65.88	101.73	212.20	289.52	363.59	490.65	
2015-16	29.18 (17)	65.44 (18)	102.54 (13)	211.71 (16)	287.76 (22)	358.50 (25)	490.46 (24)	553 (120)

Male								
1991-92	33.53	57.23	81.76	161.00	246.44	262.75		
1992-93	33.04	55.46	83.23	163.29	-	-		
1993-94	33.90	63.57	94.64	138.00	250.71	322.63		
1994-95	33.60	64.69	96.61	181.27	271.00	325.75		
1995-96	32.60	61.45	94.08	145.47	267.00	346.29		
1996-97	32.41	72.24	100.29	198.75	312.33	350.43		
1997-98	29.88	58.90	105.52	201.59	288.77	384.00		
1998-99	30.35	59.73	97.00	206.67	312.00	410.00		
1999-00	33.40	65.13	91.69	148.30	318.75	415.00		
2000-01	33.40	64.05	97.00	159.25	213.63	340.56		
2001-02	33.17	62.53	103.11	187.27	340.00	-		
2002-03	34.79	65.00	99.38	205.56	346.88	460.00		
2003-04	33.03	64.32	106.94	193.75	284.84	405.62		
2004-05	34.36	60.53	105.88	195.25	288.44	408.56		
2005-06	31.36	69.37	112.58	204.30	313.18	386.10		
2006-07	33.44	70.86	111.81	215.08	335.63	403.75		
2007-08	31.25	61.27	101.90	202.81	295.42	402.45		
2008-09	32.37	67.50	108.53	211.43	286.11	387.27		
2009-10	32.35	60.94	108.89	198.75	308.75	371.67		
2010-11	32.73	66.60	98.70	200.00	287.00	398.00		
2011-12	32.62	68.70	107.79	209.44	320.00	402.50		
2012-13	31.96	63.36	110.88	262.00	370.71	397.50		
2013-14	32.32	69.72	120.71	230.42	372.56	430.00		
2014-15	30.03	68.53	97.70	201.20	360.00	356.67		
2015-16	30.07 (29)	67.18 (28)	105.04 (23)	203.9 (14)	348.91 (12)	421.25 (04)		

9.11. Production performance of buffaloes completing their lactation during 4/2015 to 3/2016

Lactation No.	No. of Obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield (kg)
1st	12	2777.50±105.7	402.33±26.8	2480.0±80.6	12.25±0.7
2nd	5	2808.00±97.1	385.40±39.8	2623.4±100.8	12.60±1.07
3rd	12	3194.17±311.5	385.42±31.2	2793.3±222.7	16.6±1.68
4th	7	2822.71±289.3	338.0±44.3	2548.92±145.7	15.21±1.33
5th & above	9	3077.56±195.1	367.2±26.9	2729.78±137.5	15.78±1.06
Overall	**45**	**2959.04±105.7**	**383.18±14.6**	**2640.16±73.1**	**14.63±0.6**

9.12 Production performance of buffaloes (general herd) since inception of network

Years	No. of Observations	Av. Lact. Yield (kgs)	Av. Lact. Length (days)	305-day Milk Yield (kgs)	Av. Peak yield(kg)
1991-92	157	1858	321	1738	10.80
1992-93	138	1894	340	1730	10.81
1993-94	144	2238	370	1948	11.01
1994-95	121	2003	320	1877	12.06
1995-96	126	2248	350	2008	11.86
1996-97	125	2115	334	1948	11.40
1997-98	098	2255	354	1995	11.03
1998-99	125	2411	372	2101	11.50
1999-00	114	2238	375	2041	11.41
2000-01	103	2257	347	2032	11.82
2001-02	112	2419	344	2175	12.95
2002-03	105	2245	304	2144	13.16
2003-04	111	2464	342	2233	12.90
2004-05	106	2501	346	2270	12.74

2005-06	78	2480	322	2327	13.17
2006-07	91	2389	326	2235	12.39
2007-08	67	2362	323	2176	12.62
2008-09	88	2346	329	2141	11.96
2009-10	67	2478	336	2271	12.73
2010-11	81	2836	376	2470	13.28
2011-12	87	2454	322	2306	13.38
2012-13	75	2741	349	2528	13.84
2013-14	55	2789	366	2509	13.63
2014-15	46	2948	353	2674	14.84
2015-16	45	2959	383	2640	14.63

9.12.1 Production performance of buffaloes (elite) since inception of network project

Year	No. of Obs.	Av. Lact. Yield (kgs)	Av. Lact. Length (days)	305-day Milk Yield (kgs)	Av. Peak yield
1991-92	16	2798	390	2490	13.20
1992-93	07	2822	433	2371	10.60
1993-94	18	3162	429	2657	14.40
1994-95	13	3060	381	2751	16.07
1995-96	21	3148	409	2630	14.08
1996-97	25	3021	390	2651	14.34
1997-98	18	3296	418	2773	14.27
1998-99	31	3410	440	2778	13.71
1999-00	21	3199	424	2684	13.42
2000-01	23	3133	410	2672	14.01
2001-02	35	3156	377	2815	15.31
2002-03	32	3030	337	2849	15.45
2003-04	39	3183	397	2757	14.58
2004-05	38	3160	380	2793	14.40
2005-06	34	2967	340	2755	14.52
2006-07	39	2893	349	2681	13.68
2007-08	19	3143	383	2752	14.02
2008-09	22	3106	388	2654	13.43
2009-10	25	3000	362	2694	13.71
2010-11	40	3474	404	2941	14.85
2011-12	32	3172	360	2879	15.41
2012-13	38	3188	367	2899	15.46
2013-14	13	3685	406	3186	16.07
2014-15	12	4046	423	3366	17.28
2015-16	10	3846	393	3332	20.07

9.13. Average milk components during the period (month-wise) 4/2015 to 3/2016

Month	Animal in milk (N)	Av. Fat(%)	SNF	Protein	Lactose
April, 2015	58	7.8	9.84	3.63	5.79
May	64	7.9	9.78	3.57	5.63
June	58	8.1	9.62	3.48	5.61
July	53	7.9	9.60	3.38	5.68
August	54	7.8	9.72	3.86	5.76
September	56	7.9	9.76	3.52	5.71
October	53	8.2	9.87	3.44	5.63
November	50	8.3	9.84	3.57	5.82
December	48	7.9	9.91	3.60	5.72
January, 16	47	7.9	9.77	3.66	5.81
February	51	7.8	9.63	3.67	5.76
March	56	8.1	9.38	3.57	5.71
Overall	54	7.97	9.72	3.58	5.72

9.14. Reproduction performance of buffaloes calving during the period 4/2015 to 3/2016

Traits	Lactation No					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (Months)	40.17±0.724	54.56±2.49	68.25±2.34	77.83±1.16	117.14±1.97	78.88±5.826
Average Service Period (Days)		182.2±27.09	178.5±52.94	174.8±37.76	114.4±21.67	161.7±116.226
Average Dry Period (days)		107.6±14.68	151.2±40.54	128.0±25.36	106.7±31.17	119.2±12.825
Average Calving Interval (Days)		464.6±33.18	491.5±48.54	485.3±36.76	407.8±17.77	458.0±16.825

9.14.1. Reproduction performance of buffaloes calving since inception of network.

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
1991-92	49.2 (73)	169 (93)	187 (101)	493 (101)
1992-93	44.4 (48)	207 (100)	190 (98)	510 (100)
1993-94	46.7 (24)	228 (105)	184 (106)	532 (106)
1994-95	47.5 (37)	206 (96)	182 (96)	512 (96)
1995-96	45.6 (43)	218 (105)	196 (104)	526 (105)
1996-97	49.4 (34)	196 (76)	167 (76)	510 (76)
1997-98	45.0 (45)	248 (94)	203 (94)	553 (94)
1998-99	47.0 (34)	232 (81)	204 (84)	553 (87)
1999-00	42.0 (54)	213 (59)	175 (63)	518 (63)
2000-01	44.4 (27)	197 (81)	170 (82)	511 (82)
2001-02	44.7 (32)	164 (95)	149 (84)	496 (84)
2002-03	40.2 (39)	133 (95)	147 (95)	463 (95)
2003-04	36.8 (23)	160 (107)	153 (93)	455 (93)
2004-05	41.7 (27)	140 (80)	155 (80)	478 (80)
2005-06	43.7 (35)	143 (65)	119 (60)	433 (60)
2006-07	43.3 (20)	166 (69)	115 (61)	438 (61)
2007-08	42.8 (30)	147 (53)	126 (58)	419 (58)
2008-09	42.6 (43)	142 (90)	134 (52)	438 (52)
2009-10	39.3 (29)	151 (76)	174 (72)	492 (72)
2010-11	39.1 (21)	154 (94)	150 (76)	457 (76)
2011-12	37.4 (22)	136 (65)	154 (85)	473 (85)
2012-13	38.9 (34)	151 (53)	136 (59)	435 (59)
2013-14	42.3 (12)	159 (67)	190 (64)	471 (64)
2014-15	38.6 (23)	160 (40)	185 (40)	513 (41)
2015-16	40.2 (24)	162 (26)	119 (25)	458 (25)

Figures in parenthesis indicate number of observations

9.15. Month-wise milk production and disposal during the period 4/2015 to 3/2016

	Production	**Disposal**			
Month	**Total milk produced (kg)**	**Liquid milk (kg)**	**Calf feeding (kg)**	**Experimental purposes (kg)**	**Milk lost in handling (kg)**
April, 2014	15694.9	13640.0	2027.7	-	27.2
May	16624.5	14900.0	1695.0	-	29.5
June	14234.1	13213.0	986.2	8.0	26.9
July	13321.0	12569.0	719.5	6.0	26.5
August	12583.8	12094.0	462.5	2.0	25.3

September	12067.5	11423.0	612.5	7.0	25.0
October	11953.3	11173.0	751.5	2.0	26.8
November	10084.0	9613.0	438.5	6.0	26.5
December	10755.2	9797.0	924.6	6.0	27.6
January, 2015	11054.0	9649.0	1379.4	-	26.2
February	11583.9	9923.0	1633.4	-	27.5
March	13784.0	11695.0	2065.7	-	24.1
Total	153740.2	139689.0	13696.5	37	319.1

Note: Mention sale price of milk (range during the year)

9.16. Feed and fodder purchased and offered (qtls) to animals during the period 4/2015 to 3/2016

Month	**Type of fodder/feed**	**Qty. produced at Farm**	**Qty. Purchased**	**Actually fed**	**Balance**
April, 15	Green	1338		1338	
	Dry	226.40		226.40	
	Silage	594.0		594.0	
	Concentrate	-	332.25	332.25	
May	Green	719		719	
	Dry	219		219	
	Silage	1095		1095	
	Concentrate	-	352.27	352.27	
June	Green	489		489	
	Dry	255		255	
	Silage	1372		1372	
	Concentrate	-	387.05	387.05	
July	Green	612		612	
	Dry	365		365	
	Silage	920		920	
	Concentrate	-	263.17	263.17	
August	Green	1134		1134	
	Dry	136		136	
	Silage	522		522	
	Concentrate	-	259.50	259.50	
September	Green	1149		1149	
	Dry	94.18		94.18	
	Silage	-		-	
	Concentrate	-	250.90	250.90	
October	Green	1012		1012	
	Dry	94.50		94.50	
	Silage	-		-	
	Concentrate	-	244.62	244.62	
November	Green	502		502	
	Dry	145.85		145.85	
	Silage	804		804	
	Concentrate	-	227.55	227.55	
December	Green	743		743	
	Dry	132.86		132.86	
	Silage	835		835	
	Concentrate	-	234.90	234.90	
January 16	Green	715		715	
	Dry	217.84		217.84	

	Silage	201		201	
	Concentrate	-	235.33	235.33	
February	Green	1597		1597	
	Dry	140.98		140.98	
	Silage	-		-	
	Concentrate	-	223.08	223.08	
March	Green	1690	-	1690	
	Dry	121.35	-	121.35	
	Silage	-		-	
	Concentrate	-	250.10	250.10	
Total	Green	11700		11700	
	Dry	2148.96		2148.96	
	Silage	6343		6343	
	Concentrate	-	3260.72	3260.72	

9.17. Milking performance during the period 4/2015 to 3/2016

Month	No. of Animal in milk	No. of Animal dry	Total Animal	% in Milk	Wet average (kg)	Herd average (kg)
April, 2015	58	36	94	67.39%	8.41	5.71
May	64	30	94	67.74%	8.47	5.76
June	58	36	94	68.09%	7.44	5.05
July	53	41	94	57.45%	7.47	4.57
August	54	40	94	57.45%	7.47	4.31
September	56	37	93	60.21%	7.52	4.57
October	53	25	78	67.9%	7.63	4.94
November	50	29	79	63.2%	7.98	4.99
December	48	35	83	57.8%	8.12	4.82
January, 2016	47	39	86	54.6%	8.67	4.89
February	51	35	86	59.3%	8.72	5.16
March	56	35	91	61.5%	8.57	5.37
Overall	54	35	89	61.89	8.04	5.01

9.17.1. Milking performance since inception

Years	No. of Animal in milk	No. of Animal dry	Total Animal	% in Milk	Wet average (kg)	Herd average (kg)
1991-92	148	74	222	66.67	5.65	3.79
1992-93	149	77	226	65.93	5.54	3.68
1993-94	115	76	191	60.21	6.20	3.71
1994-95	116	67	183	63.39	6.09	3.86
1995-96	123	66	189	65.08	6.43	4.21
1996-97	112	72	194	60.87	6.17	3.73
1997-98	116	61	177	65.54	6.53	4.30
1998-99	119	65	184	64.67	6.26	4.06
1999-00	109	55	164	66.46	6.26	4.17
2000-01	105	58	163	64.42	6.70	4.36
2001-02	94	48	142	66.20	7.09	4.70
2002-03	109	48	157	69.43	7.22	5.00
2003-04	108	52	160	67.50	7.01	4.80
2004-05	91	45	136	66.91	7.33	5.00
2005-06	74	31	105	70.48	7.36	5.21
2006-07	81	27	108	75.00	7.03	5.27
2007-08	70	29	99	70.35	6.90	4.90
2008-09	78	38	116	67.00	7.07	4.73

2009-10	83	40	123	69.17	7.62	5.15
2010-11	88	47	135	64.93	7.21	4.72
2011-12	88	51	139	63.06	7.56	4.79
2012-13	78	45	123	63.49	7.74	4.90
2013-14	61	43	104	58.29	7.98	4.67
2014-15	54	32	86	62.34	7.97	4.98
2015-16	54	35	89	61.89	8.04	5.01

9.18. Bull-wise daughters born/daughters reaching A.F.C. and completing 1st lactation records during the period 4/2015 to 3/2016

Bull No.	Total No. of daughters born	No. of daughters reaching A. F. C.	No. of daughters completing 1st Lactation	Last Lactation
M2369	2	-	-	-
M2412	8	-	-	-
M2459	5	-	-	-
MU4324	1	-	-	-
MU4403	1			
Total	17	-	-	-
KHURANA	-	1	-	-
2177	-	1	-	-
R10	-	1	-	-
M220	-	1	-	-
M2269	-	1	-	-
MU3964	-	1	-	-
M2304	-	4	-	-
M2176		2	-	-
M2234	-	1	-	-
M1796	-	2	-	-
M1875	-	2	-	-
M5943	-	2	-	-
M2185	-	1	-	-
M5710	-	2	-	-
M4059	-	1	-	-
M3598		1		
Total	-	24	-	-
2185	-	-	1	-
MU3591	-	-	2	-
M2177	-	-	2	-
MU5516	-	-	1	-
M1796	-	-	1	-
M2176	-	-	2	-
MU220	-	-	1	-
KHURANA	-	-	1	-
MU5710	-	-	1	
Total	-	-	12	-

9.19. Bull-wise daughters completing 1st lactation during the Period 4/2015 to 3/2016

Sr. No	Bull No.	Daughter No.	Date of birth	Date of calving	1st lact. 305 day milk yield (kg)	Total lact. yield (kg)	Lact. length (day)
1-1	M2185	P2649	31.01.11	11.06.14	2647.8	2647.8	296
2-1	MU3591	P2601	10.02.10	25.01.14	2667.5	3387.4	463
3-1	M2177	P2663	09.07.11	17.05.14	1791	1932.8	357
4-2	M2177	P2710	23.11.11	27.01.15	2483	2789	400
5-1	MU5516	P2580	04.12.09	16.12.13	2202.3	2874.7	550
6-1	MU3591	P2604	21.02.10	18.12.13	2902.9	3072.0	559
7-1	M1796	P2678	08.09.11	22.07.14	2393.6	2698.2	400
8-1	M2176	P2684	28.09.11	25.06.14	2676.7	2970.4	469
9-1	MU220	P2659	24.06.11	09.08.14	2581.1	3043	508
10-1	M2176	P2677	07.09.11	09.03.15	2456	2473.7	319
11-1	KHURANA	P2725	11.02.12	13.04.15	2539	2539.0	292
12-1	MU5710	P2675	30.08.11	10.01.15	2418	2901.7	407

9.20 List of breeding/young bulls as on 3/2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's 305 days or less yield (kg)	Semen doses available	Remarks
1.	M2177	06-10-06	P1884	M1354	3024	5450	
2.	M2304	01-08-09	P2138	MU3226	3435	7944	
3.	M2357	24.07.10	P2488	MU1933	3559	5407	
4.	M2369	24.08.10	P2138	MU5496	3435	6018	
5.	M2371	30.08.10	P1794	M1796	3053	8305	
6.	M2383	13.10.10	P2489	MU3267	4636	872	
7.	M2412	24.04.11	P2467	MU220	2998	4105	
8.	M2417	10.07.11	P2487	M2177	3565	8805	
9.	M2429	15.08.11	P2138	MU5710	3435	3804	
10.	M2459	22.12.11	P2489	M1796	4636	3074	
11.	M2467	01.04.12	P2279	R10	3574	52	
12.	M2489	25.08.12	P2314	M1875	3207	435	
13.	M2501	10.10.12	P1794	M1875	3053	450	
14.	M2545	30.10.13	P2431	MU3964	2787		
15.	M2558	20.12.13	P2279	M1875	3574		
16.	M2565	24.01.14	P2522	M2269	2797		
17.	M2566	30.01.14	P2304	M2269	3002		
18.	M2584	03.04.14	P2530	M1875	3395		
19.	M2588	02.05.14	P2436	MU2583	3151		
20.	M2594	30.07.14	P2221	M1994	3557		
21.	M2607	17.12.14	P2605	M2369	3011		
22.	M2610	03.01.15	P2548	M2369	3135		
23.	M2612	10.01.15.	P2279	M1994	3094		
24.	M2614	23.01.15	P2438	M1994	4243		
25.	M2624	02.03.15	P2141	M1994	3305		
26.	M2625	04.03.15	P2547	M2369	2985		
27.	M2632	03.04.15	P2522	M2369	2997		
28.	M2639	13.04.15	P2470	M1994	2915		
29.	M2645	20.06.15	P2530	M1994	3394		
30.	M2648	21.08.15	P2221	M1994	3357		
31.	M2665	30.01.16	P2381	M2045	3120		
32.	M2674	01.03.16	P2532	M2412	3583		

9.21 Target achieved during the year 4/2015 to 3/2016

Sr. N	Trait	Target	Achieved
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	
2.	Av. Age at first calving	40 months	40.2 months (24)
3.	Av. Age for initiating of bulls (months)	18 months (350 kg. B.wt.)	19 months (365 kg. B.wt.)
4.	Av. Age at first collection	30 months (400 kg. B.wt.)	31.5 months 423 kg. B.wt.)
5.	Av. Service period	130 days	161 (26)
6.	Calf mortality (0-3 months)	≤ 5%	4.23 %
7.	Wet average	≥ 8.5 kg.	8.04 kg
8.	Herd average	≥ 5.5 kg.	5.01 kg

10. Salient Research Achievements including survey reports/farmers animals covered in the project:

- Three bulls have been included in the 16th set of the project.
- One bull No. M2133 of 11th set got selected among the three top ranked progeny tested bulls.
- The average age at 1st calving is achieved to 40.1 months.
- The average age at first collection of the bulls at the institute was 30 months.
- The average 305-day yield of the herd was 2640 kg and wet average of 8.04 kg and herd average of 5.01 kg during the period 4/2015 to 3/2016.

11. Publications: -

12. Expected Socio-economic impact in the tract:

13. Constraints if any:

Regular staff like beldars, supervisors and milk recorders has been reduced in the strength in the project which is causing working problems at the Dairy farm.

14. Focus of work in the coming year:

Efforts are being made to improve the reproductive efficiency of the buffalo herd.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E 2015-16		Released ICAR Share as per R E	Expenditure as per AUC		Receipts (ICAR Share)	Balance
Total	ICAR Share		ICAR Share	State Share		
121.00	90.75	90.75	Revised AUC required			

Herd Performance

Herd strength at the centre was 245 animals with 131 breedable buffaloes (> 2 year). During the period 47 calving were reported with 29 male and 17 females and one still births. The calf mortality (0-3 months) during the period was 5.63 % (4/71). The female conception rate at the farm was low at 39.76 % (99/249).

During the period 46033 semen doses were produced from 12 bulls and 6726 semen doses were sold and 25501 doses were supplied to field unit/ other Murrah centers and other agencies. 1,03,428 frozen semen doses from proven bulls is available at the centre. 305 day or less day milk yield was 2640 kg (n=45) with average peak yield of 14.63 kg. Average lactation lengths of 383 days indicate towards poor reproductive health of the herd. Out of 12 buffaloes completing their first lactation 8 were having lactation length > 400 days. The reproductive performance viz. AFC, SP, DP and calving interval were 40.17 months (n=24), 162±116.2 days (n=26), 119.2±12.8 days (n=25) and 458.0±16.8 days (n=25) respectively. The wet and herd averages were 8.04 kg and 5.01 kg, respectively.

Targets achieved during 2015-16

S. No	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	-	25.8
2.	Av. Age at first calving	40 months	40.17	38.6
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	19 months (365 kg B wt)	18 (360 kg body wt.
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	31.5 months (423 kg body wt.	29.3
5.	Av. Service period	130 days	161	160
6.	Calf mortality (0-3 months)	$\leq$ 5%	4.23 %	12.98 %
7.	Wet average	$\geq$ 8.5 kg	8.04 kg.	7.97 kg
8.	Herd average	$\geq$ 5.5 kg	5.01 kg.	4.98 kg

Recommendations:

- Decreasing number of elite buffaloes are of concern, need immediately attention.
- Number of producing buffaloes should be increased as production performance of only 45 buffaloes (including 10 elite) was presented in 2015-16, while this was for 87 buffaloes in the year 2011-12.
- Low conception rate needs greater attention along with improvement of % buffalo in milk.

ICAR-NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL

1. Name of Center **NDRI, Karnal**
2. Project Code Specified
3. Project Title Net work Programme on Buffaloes
4. Date of Start 1993-1994
5. Objectives Specified
6. Technical Programme Specified
7. Financial Statement Non Funded centre;
8. Staff Position - Redeployment
9. Herd Performance Enclosed Tables 9.1 to 9.22

9.1 Herd Strength during the Period 1/4/2015 to 31/ 03 /2016

Category		Addition		Disposal				
Sr.No.		**OB**	**B**	**T/P**	**D**	**T**	**S**	**CB**
	Female							
1.	Female Calves below 3 months	27	73	-	16	73	-	11
2.	Female Calves >3-12 months	36	-	73	5	68	-	36
3.	Heifers above 1-2 years > 2 years	44 62	- -	31 50	3 -	8 37	- -	64 75
4.	Buffaloes in Milk	139	-	04	16	6	13	108
5.	Buffaloes Dry P /NP	93	-	58	-	-	6	145
	Sub Total	401	73	216	40	192	19	439
	Male							
1.	Male Calves below 3 months	19	62	-	15	61	-	5
2.	Male Calves >3-12 months	29	-	61	10	45	-	35
3.	Male above 1-2 years > 2 years	13 7		40 30	1 1	3 -	7 14	42 22
4.	Breeding bulls	44	-	1	-	2	1	42
5.	Bullocks	-	-	-	-	-	-	-
6.	Teasers	-	-	-	-	-	-	-
	Sub Total	112	62	132	27	111	22	146
	Grand Total	513	135	348	67	303	41	585

OB = Opening Balance D = Deaths S = Sale P= Purchase
B = Births T = Transfer CB = Closing Balance

9.2. Calving Statistics during the period 1/4/2015 to 31/03/2016

Month	Male		Female		Dystokia		Prolapses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Apr, 15	2	3.2	2	2.7	-	-	-	-	-	-	-	-	4	2.7
May	1	1.6	4	5.5	-	-	-	-	-	-	-	-	5	3.4
June	2	3.2	5	6.8	-	-	-	-	-	-	2	33.3	9	6.0
July	11	17.7	10	13.6	-	-	2	33.3	1	50	1	16.6	25	16.7
Aug	15	24.2	8	10.9	-	-	1	16.6	-	-	2	33.3	26	17.4
Sept	11	17.7	8	10.9	-	-	1	16.6	-	-	-	-	20	13.4
Oct	7	11.3	7	9.6	-	-	1	16.6	-	-	-	-	15	10.0
Nov	2	3.2	7	9.6	-	-	-	-	-	-	-	-	9	6.0
Dec	3	4.8	1	1.3	-	-	1	16.6	-	-	-	-	5	3.4
Jan,16	4	6.5	7	9.6	-	-	-	-	-	-	-	-	11	7.4
Feb	3	4.8	9	12.3	-	-	-	-	1	50	1	16.6	14	9.4
Mar	1	1.6	5	6.8	-	-	-	-	-	-	-	-	6	4.0
Overall	62	100	73	100	-	-	6	100	2	100	6	100	149	100

Sex ratio: Male : Female – 1: 1.18

9.3. Disposal of Animals during the Period 1/4/2015 to 31/03/2016

Sr. No.		Surplus	Rep. Problem	Weal & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months				16		16
2.	Calves >3 – 12 months				5	23	5
3.	Heifers 1 – 2 years > 2 years				1 2		1 2
4.	Buffaloes in Milk	3	10	-	16	220	29
5.	Buffaloes Dry P /NP	-	6	-	-		6
	Sub Total	3	16		40	243	59
	Male						
1.	Calves 0 – 3 months				15		15
2.	Calves >3 – 12 months				10	39	10
3.	Male 1 – 2 years > 2 years	7 14			2	27	9 14
4.	Breeding bulls	1				22	1
5.	Bullocks	-					
6.	Teasers	-					
	Sub Total	22	-	-	27	78	49
	Grand Total	25	16	-	67	321	108

9.4. Month wise Mortality during the Period 1/4/2015 to 31/03/2016

Month		**Female**						**Male**					Overall Herd
		0-3	3-6	6-12	1-2 Yrs.	Above 2 Yrs.	Overall Female	0-3	3-6	6-12	Above 1 Yrs.	Overal l Male	
April 15	No. Died	271	12 -	24 1	44 1	294 -	401 3	191	13 -	16 -	64 -	112 1	513 4
May	No. Died	21 -	15 -	27 -	44 1	296 -	403 1	171	13 -	19 -	66 -	115 1	518 2
June	No. Died	17 -	22 -	22 -	47 -	297 -	405 -	7 1	20 -	20 -	66 -	113 1	518 1
July	No. Died	162	20 -	25 -	48 1	294 -	403 3	4 -	17 -	25 -	68 -	114 -	517 3
Aug.	No. Died	182	11 -	31 -	51 -	299 3	410 5	83	16 -	28 -	68 -	120 3	530 8
Sep.	No. Died	182	6 -	33 -	51 -	300 -	408 2	21 -	7 -	30 -	74 -	132 -	540 2
Oct.	No. Died	201	61	32 -	48 -	291 2	406 4	33 3	41	28 1	64 -	129 5	535 9
Nov.	No. Died	183	15 -	26 -	48 -	300 1	407 4	32 3	6 -	27 -	67 -	132 3	539 7
Dec.	No. Died	162	18 1	36 1	52 -	302 3	424 7	15 1	20 3	24 1	70 -	129 5	553 12
Jan. 16	No. Died	10 1	18 -	32 1	57 -	326 1	443 3	8 -	26 2	19 1	75 -	128 3	571 6
Feb.	No. Died	9 2	15 -	27 -	60 -	327 4	438 6	62	24 -	19 -	78 2	127 4	565 10
March	No. Died	11 -	14 -	22 -	64 -	328 2	439 2	5 -	14 -	25 1	101 -	145 1	584 3
Overall	No. Died %	201 16 7.96	172 2 1.16	337 3 0.89	614 3 0.48	3654 16 0.43	4987 40 0.80	175 15 8.57	180 6 3.33	280 4 1.42	861 2 0.23	1496 27 1.80	6483 67 1.03

Overall calf mortality (0-3m) was 8.24 percent.

9.5. Causes of Mortality (quarter wise) during the period 1/ 4/2015 to 31 / 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :				
1. Pneumo-Enteritis			6	2
2. Broncho-Pneumonia			7	4
B. Digestive System :				
1. Enteritis	2	2	1	1
2. Septicamia & Toxaemia	3	7	8	5
3. Acute Bloat		1	2	
C. Others				
1. Chronic debility	2	1	2	4
2. Sudden death		1		
3.Cardiac arrest		1	1	2
4.Paralysis			1	1
Total	**7**	**13**	**28**	**19**

9.6. Prophylactic measures taken during the Period 1/4/2015 to 31/03/2016

Vaccination	No. of animals Available	Inoculated	Screening	No. of animals Tested	Results	No. of animals treated for Parasitism etc.
FMD	All buffaloes	May 2015				Dewormed all calves up to 6 months and other buffaloes as required.
HS	All buffaloes above 45 months	May 2015				
BQ	All buffaloes above 45 months	May 2015				
RP	-	-				
Brucellosis	Buffaloes calves	May 2015				
TB				Nil		
JD				Nil		

9.7.Calving Abnormalities (Quarter wise) during the period 1/4/2015 to 31/03/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Apr.15	-	-	-	-	-	-	-	-	-	2	2	100	1	1	100	5	2	40	6	4	66	5	1	20	4	2	50	23	12	52.2
May	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	1	1	100	1	1	100	5	2	40	5	2	60	13	7	53.8
June	-	-	-	-	-	-	-	-	-	2	1	50	-	-	-	2	1	50	2	1	50	1	-	-	4	1	25	11	4	36.3
July	-	-		-	-	-	-	-	-	5	1	20	3	-	-	2	-	-	6	-	9	2	-	-	5	2	60	23	3	13.0
Aug.	3	1	33.3	-	-	-	-	-	-	1	-	-	2	-	-	1	1	100	7	4	57	4	1	25	5	2	60	23	9	39.1
Sep.	-	-	-	-	-	-	-	-	-	4	-	-	3	2	66	2	-	-	15	7	46	1	-	-	3	-	-	28	9	32.1
Oct.	7	3	42.8	1	-	-	-	-	-	-	-	-	2	1	50	2	-	-	9	4	44	5	3	60	2	1	50	28	12	42.8
Nov.	1	-	-	1	-	-	-	-	-	12	4	33	2	1	50	3	1	33	23	10	47	9	3	33	5	3	60	54	22	40.7
Dec.15	5	3	60.0	3	3	100	-	-	-	5	3	10	2	-	-	3	1	33	12	4	33	10	9	90	9	4	44	49	27	55.1
Jan.16	3	2	66.6	-	-	-	1	-	-	1	1	100	1	-	-	3	-	-	10	4	40	8	2	25	7	2	28	34	11	32.3
Feb	2	1	50.0	1	1	100	-	-	-	3	2	66	2	1	50	2	-	-	1	1	100	5	2	60	4	2	50	22	10	45.4
Mar.16	-	-	-	-	-	-	1	-	-	1	1	100	1	1	100	4	2	50	4	1	25	7	1	14	7	3	42	25	9	36.0
Total	21	10	47.6	6	4	66	2	-	-	36	15	41	20	8	40	30	9	30	96	41	43	62	24	38	60	24	40	333	135	40.5

I = No. of animals inseminated C = No. of animals conceived CR% = Conception rate%

9.8. Female Conception Rate during the Period 1/4/2015 to 31/03/2016

XV th Set	Sr No	Bull No.	Number of AI	Total Pregnant	CR (%)
NDRI	1	6007	16	6	37.5
	2	6139	7	5	71.4
	3	6290	29	10	34.4
	4	6405	36	14	38.8
CIRB	1	4324	6	2	33.3
	2	4328	20	7	35.0
	3	4363	28	11	39.3
	4	4403	23	11	47.8
	5	4438	20	10	50.0
GADVASU	1	2417	31	10	32.2
	2	2429	24	7	29.1
	3	2459	22	8	36.3
XVI th Set					
NDRI	1	6409	11	4	36.3
Total			**273**	**105**	**38.46**
Proven Bull	1	1875	18	11	61.1
	2	1893	29	13	44.8
	3	5258	13	6	46.1
Total			**60**	**30**	**50.00**
G. Total			**333**	**135**	**40.54**

CR% = Conception rate

9.9. Bull Wise Semen Stock during the period 1/04/2015 to 31/03/2016

Centre	Bull No.	Open. Balance	Semen Produced	Semen Received	Consumption			Balance
XV th Set					**AI**	**To NOB CIRB**	**NOB NDRI**	
NDRI	6007	2753	2090	-	100	750	355	3638
	6139	3977	3325	-	100	620	545	6037
	6290	2224	694	-	100	750	100	1968
	6405	601	3449	-	75	750	100	3125
CIRB	4324	950	-	500	-	-	580	870
	4328	800	-	1250	50	-	524	1476
	4354	980	-	-	-	-	800	180
	4363	400	-	1250	-	-	416	1234
	4403	250	-	750	-	-	300	700
	4438	450	-	1250	-	-	380	1320
GADVASU	2371	360	-	500	-	-	100	760
	2412	400	-	500	-	-	900	-
	2417	50	-	500	-	-	500	50
	2429	500	-	-	-	-	182	318
	2459	250	-	500	-	-	200	550
Total		**14,945**	**9558**	**7000**	**425**	**2870**	**5982**	**22,226**
XVI th Set								
NDRI	6409	-	4402	-	100	500	-	3802
	6379	-	1260	-	100	500	-	660
	6646	-	938	-	100	400	-	438
	4592			250			250	-
	4705			250			-	250
	4889			250			-	250
Total			**6600**	**750**	**300**	**1400**	**250**	**5400**
G.Total		**14,945**	**16158**	**7750**	**725**	**4270**	**6232**	**27626**

9.10 Body Weights of buffaloes during the period 1/4/2015 to 31/03/2016

Age	N	Body weight (kg)	
		Mean	S.E
Female			
Birth	78	31.51	0.59
3 Months	40	59.58	2.11
6 Months	15	92.80	5.81
Males			
Birth	68	33.50	0.62
3 Months	45	60.46	1.66
6 Months	22	102.00	4.62

Table 9.10.1 Body Weights since inception of the project

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Heifer (n)	Adult (n)
Female	--							
Male	--							

9.11 Production performance of buffaloes completing their lactation during the period 01/4/2015 to 31/03/2016

Lact. No.	Av. Lact. Yield (kgs)	Av. Lact. Length (days)	305-day Milk Yield (kgs)	Av. Peak yield (Kg)
1st	2627.00 (36)	350.30 (36)	2431.90 (36)	13.30 (36)
2nd	2714.40 (35)	359.80 (35)	24.64.00 (35)	13.81 (35)
3rd	2636.20 (26)	399.10 (26)	2458.80 (26)	14.30(26)
4th	3231.60 (08)	345.80 (08)	3021.50 (08)	16.30(08)
5th& Above	2928.36 (13)	343.04 (13)	2758.70 (13)	15.43(13)
Overall	2727.78 (118)	329.77 (118)	2523.32 (118)	14.10 (118)

Figures in parenthesis indicate number of observations

9.12 Production performance of buffaloes since inception of Network

Year	Av. Lact. Yield (Kgs)	Av. Lact. Length (Days)	305-day Milk Yield (Kgs)	Av. Peak Yield (Kgs)
1993-1994	2513.70 (117)	311.00 (117)	2351.80 (137)	-
1994-1995	2382.30 (128)	325.90 (128)	2270.10 (128)	11.70 (128)
1995-1996	2750.90 (106)	323.10 (106)	2576.10 (106)	14.20 (106)
1996-1997	2636.50 (105)	330.00 (105)	2423.10 (105)	13.20 (105)
1997-1998	2336.10 (128)	301.00 (128)	2191.20 (128)	11.80 (128)
1998-1999	2190.00 (112)	328.30 (112)	2032.60 (112)	11.10 (112)
1999-2000	1951.00 (095)	316.80 (095)	1822.40 (102)	11.10 (102)
2000-2001	2075.30 (116)	292.30 (116)	2019.10 (126)	12.00 (126)
2001-2002	2070.80 (085)	315.90 (085)	1963.20 (091)	11.80 (091)
2002-2003	2209.44 (072)	330.07 (072)	2000.67 (081)	12.01 (081)
2003-2004	2009.08 (077)	315.23 (077)	1897.08 (089)	10.93 (092)
2004-2005	2091.94 (080)	317.00 (080)	2025.00 (098)	10.86 (098)
2005-2006	2226.97 (126)	301.25 (126)	2159.06 (142)	12.41 (142)
2006-2007	2143.65 (099)	307.39 (099)	2053.77 (111)	11.80 (111)
2007-2008	2254.75 (112)	322.15 (112)	2094.16(127)	12.50(127)
2008-2009	2419.13 (081)	341.61 (081)	2256.01 (086)	12.43 (086)

2009-2010	2272.54 (077)	313.04 (077)	2221.61 (084)	12.08 (084)
2010-2011	2146.04 (125)	310.69 (125)	2014.70 (130)	11.24 (130)
2011-2012	2344.16 (67)	331.83 (67)	2191.83 (67)	10.67 (67)
2012-2013	2381.05 (78)	304.87 (78)	2255.81 (83)	11.56 (83)
2013-2014	2631.90 (82)	332.68 (82)	2430.91 (82)	11.98 (98)
2014-2015	2486.33 (119)	305.15 (119)	2223.57 (124)	12.86 (124)
2015-2016	2727.78 (118)	329.77 (118)	2523.32 (118)	14.10 (118)

Figures in Parenthesis indicate number of observation

9.13 Average Milk Components during the period (Month-Wise) 1/4/2015 to 31/03/2016

Month	**Number of observation**	**Fat (%)**	**SNF (%)**	**TS (%)**	**Protein**	**Lactose**
Apr, 15	144	7.63	9.52	17.15		
May	132	8.50	9.70	18.20		
June	123	8.49	9.66	18.15		
July	131	8.38	9.57	17.95		
Aug	151	8.14	9.61	17.75		
Sept	159	8.66	9.66	18.32		
Oct	160	8.47	9.64	18.11		
Nov	147	8.47	9.61	18.80		
Dec,15	138	8.01	9.54	17.55		
Jan, 16	131	8.22	9.55	17.77		
Feb	120	7.86	9.49	17.35		
Mar	112	8.62	9.66	18.28		
Overall	**1648**	**8.28**	**9.60**	**17.88**	**NE**	**NE**

9.14 Reproduction Performance of Buffaloes calving during the period 1/4/15 to 31/03/16

Traits	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & Above Mean ± SE (N)	Overall
Ave. Age at Calving (Months)	39.29± 1.3 (24)	-	-	-	-	39.29 ± 1.3 (24)
Average Service Period (Days)	149.5± 12.4 (9)	125.2± 5.9 (24)	117.8±22.0 (24)	142.7± 13.4 (22)	154.9±21.35 (13)	134.03 ± 22.5 (92)
Ave. Dry Period (Days)	88.11± 8.56 (9)	144.3±10.1 (24)	140.6± 13.5 (24)	133.2±8.6 (22)	112.9± 21.01 (13)	130.75 ± 14.73 (92)
Average Calving Interval (Days)	395.33±20.0 (9)	442.0±16.4 (24)	424.3±15.6 (24)	436.5±15.8 (22)	431.31±35.07 (13)	429.99 ± 23.21 (92)

9.14.1 Reproduction Performance of Buffaloes calving since inception of Network.

Years	AFS in Months (N)	Av. AFC in Months (N)	Av. Service Period in day (N)	Av. Dry Period in day (N)	Av. Calving Interval in day (N)
1993-1994	-	45.50 (44)	148.63 (97)	123.26 (98)	428.02 (98)
1994-1995	-	46.00 (37)	119.70 (70)	103.18 (71)	428.20 (70)
1995-1996	-	43.84 (27)	114.79 (72)	113.03 (72)	422.64 (72)
1996-1997	-	46.81 (27)	114.33 (66)	96.06 (66)	423.27 (66)
1997-1998	-	44.84 (34)	96.80 (59)	93.49 (59)	394.68 (60)
1998-1999	-	46.24 (54)	118.24 (63)	108.50 (62)	424.40 (62)
1999-2000	-	42.60 (29)	159.18 (82)	113.94 (52)	435.19 (52)
2000-2001	-	42.40 (42)	107.10 (53)	111.50 (56)	407.70 (56)
2001-2002	31.23	44.03 (34)	123.56(77)	118.65 (43)	428.12 (43)
2002-2003	30.94	44.02 (20)	140.87 (59)	82.98 (31)	405.90 (31)
2003-2004	30.63 (63)	43.87 (62)	131.65 (117)	103.59 (37)	438.58 (37)
2004-2005	29.35 (76)	43.37 (47)	126.45 (93)	106.03 (35)	427.99 (35)
2005-2006	26.80 (35)	39.90 (36)	149.06 (68)	109.61 (54)	413.31 (54)
2006-2007	28.02 (48)	41.42 (50)	131.40 (80)	113.86 (50)	419.02 (50)
2007-2008	28.25 (39)	41.82 (42)	119.61 (84)	121.95 (55)	441.01 (55)
2008-2009	27.97 (35)	40.75 (31)	130.58 (61)	102.04(21)	423.71(21)
2009-2010	29.61(23)	41.08 (25)	145.96 (62)	107.08(30)	412.54(30)
2010-2011	32.86 (37)	41.26 (50)	145.06 (76)	119.36 (44)	442.40 (44)
2011-2012	31.06 (27)	42.13 (24)	120.66 (87)	110.83 (56)	428.33 (56)
2012-2013	30.01 (36)	41.58 (29)	123.93 (69)	96.94 (55)	401.96 (55)
2013-2014	31.95 (34)	41.87 (36)	128.37 (73)	100.73 (48)	423.74 (48)
2014-2015	27.91 (31)	40.39 (35)	134.71 (71)	111.45 (40)	420.97 (40)
2015-2016	28.20 (18)	39.29 (24)	134.03(92)	130.75 (92)	429.99 (92)

9.15 Month wise Milk Production and Disposal during the period 1/4/2015 to 31/03/2016

Month	**Total milk produced (kg)**	**Disposal**		
		Liquid Milk	**Calf feeding**	**Expt.**
April , 2015	34061.5	Total milk supplied to the milk plant		
May	23363.0			
June	30327.0			
July	29314.0			
August	28882.0			
September	29462.5			
October	31373.0			
November	30301.0			
December, 2015	29921.5			
January, 2016	27313.0			
February	23868.5			
March	23176.0			
Total	**3,41,363.0**			

9.16 Feed and fodder purchased and offered to animals during the period 4/2015 to 3/2016

Month	fodder/ feed	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
April 15 to March 2016	Green	--	--	--	--
	Dry	--	--	--	--
	Silage	--	--	--	--
	Concentrate	--	--	--	--

9.17. Milking performance during the period 1/4/2015 to 31/03/2016

Month	**No. of Animals in Milk**	**No. of Animals in dry**	**Total Animals**	**% in Milk**	**Wet Av. (Kg)**	**Herd Av. (Kg)**
April, 2015	139	93	232	59.90	8.7	4.9
May	130	102	232	56.03	7.9	4.5
June	123	110	233	52.78	9.1	4.3
July	126	112	238	52.94	8.2	4.0
August	139	102	241	57.68	8.3	3.9
September	149	88	237	62.86	8.4	4.8
October	147	82	229	64.19	8.0	4.4
November	142	93	235	60.42	9.0	4.3
December	135	103	237	56.54	8.7	4.8
January, 2016	133	121	254	52.36	8.1	3.5
February	118	136	254	46.45	8.4	3.2
March	108	145	253	42.68	8.4	3.0
Average	**132**	**107**	**239**	**55.44**	**8.43**	**4.13**

9.17.1 Milking Performance since inception of Network

Year	**No. of Animals in Milk**	**No. of Animals in Dry**	**Total No. of Animals**	**% in Milk**	**Wet Av. (Kg)**	**Herd Av. (Kg)**
1993-94	115	45	160	72.15	7.80	5.60
1994-95	114	54	168	68.02	8.39	5.72
1995-96	109	51	160	68.12	8.03	5.50
1996-97	103	43	146	70.55	7.90	5.60
1997-98	119	47	166	71.98	7.40	5.30
1998-99	100	68	168	59.40	5.93	3.52
1999-00	094	71	165	75.53	6.60	3.90
2000-01	104	59	163	63.56	6.65	4.23
2001-02	090	53	143	62.69	6.26	3.93
2002-03	073	34	106	68.48	6.23	4.27
2003-04	080	37	117	68.38	6.36	4.31
2004-05	111	46	157	70.50	7.39	5.23
2005-06	107	65	172	62.14	7.05	4.38
2006-07	100	78	178	56.18	6.70	3.75
2007-08	104	69	173	60.00	6.80	4.00
2008-09	064	65	130	50.25	7.09	3.49
2009-10	091	65	156	58.33	7.32	4.25
2010-11	096	109	205	46.82	5.83	2.75
2011-12	066	81	147	44.89	6.79	3.03
2012-13	090	51	141	63.69	7.35	4.63
2013-14	101	65	166	60.84	7.80	4.70
2014-15	115	82	197	58.05	8.05	5.10
2015-16	132	107	239	55.44	8.43	4.13

9.18 Bull wise daughters born during the period 1/4/2015 to 31/03/2016

Set No.	Centre	Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lact.
NDRI					
XIV		6044	9		
XIV		6136	5		
XV		6007	4		
XV		6139	3		
GADVASU					
XV		2371	7		
XV		2412	8		
CIRB					
XIV		4100	4		
XV		4324	3		
		4354	5		
		4363	4		
		4438	9		
Total			61	NIL	NIL
Proven Bull		1994	5		
		5258	7		
Total			12	NIL	NIL
Grand Total			73	NIL	NIL

9.19 Bull wise daughters completing 1st lactation during the period 4/2015 to 3/2016

Sr. No.	Bull No.	Daughter No.	Date of birth	Date of calving	First lact. 305 day or less milk yield(kg)	Total yield/ L.L	Remarks
1	5496	6231	09.07.10	08.05.14	3541	3724.1/355	
2	4506	6282	10.10.10	13.07.14	2010	2010/289	
3	4915	6349	05.08.11	21.05.14	2171	2262.5/342	
4	3103	6064	09.05.09	19.08.14	2876	2875/284	
5	3255	6114	18.09.09	07.07.14	1553	1571/317	
6	2177	6197	10.04.10	27.08.14	2254	2254/277	
7	3255	6286	20.10.10	08.05.14	2345	2751/417	
8	220	6341	22.07.11	21.09.14	1653	1653/267	
9	2176	6350	13.08.11	13.08.14	2414	2938/455	
10	5604	6361	13.09.11	06.10.14	2215	2543/401	
11	4506	6104	06.09.09	31.01.15	2865	3240/391	
12	2133	6175	04.01.10	07.03.15	2757	2865/335	
13	3255	6281	09.10.10	05.10.15	2409	3068/503	
14	3591	6289	25.10.10	22.11.14	2697	3228/439	
15	5720	6458	27.03.12	15.01.15	1775	2202/407	
16	2177	6388	23.11.11	22.04.15	2081	2195/343	

9.21 List of bulls as on 31/03/2016

Sr. No	Bull No.	Date of Birth	Dam No.	Sire No.	Dams B 305 D or less MY (Kg)	Semen Doses available
1	6007	15.09.2008	5231	5396	3260	2736
2	6014	02.10.2008	5234	1693	3072	5539
3	6044	15.01.2009	430	4371	3567	4716
4	6125	14.09.2009	460	2148	2727	-

5	6136	25.09.2009	5517	2148	4341	7153
6	6139	03.10.2009	5850	4506	2828	6451
7	6253	26.08.2010	418	Pur	2601	-
8	6290	26.10.2010	5517	4915	4341	1809
9	6303	09.12.2010	473	2177	2737	-
10	6304	29.11.2010	465	4915	2856	-
11	6333	17.05.2011	4933	4915	3324	-
12	6340	19.07.2011	5620	220	3104	-
13	6355	27.08.2011	5763	5604	2556	-
14	6376	10.08.2011	458	5710	2506	-
15	6379	17.10.2011	402	4915	3505	645
16	6386	13.11.2011	452	220	2740	-
17	6405	26.01.2012	486	Pur	2743	3206
18	6407	01.05.2012	488	Pur	3137	-
19	6409	09.02.2011	490	Pur	4090	3179
20	6417	31.01.2012	6416	4059	1995	-
21	6482	07.08.2012	428	4915	2847	-
22	6485	13.07.2012	453	2177	2671	-
23	6509	17.08.2012	5132	3551	2763	-
24	6510	21.08.2012	472	2269	2657	-
25	6521	09.05.2012	5736	2279	2588	-
26	6540	25.10.2012	467	5943	3164	-
27	6547	14.11.2012	463	4915	2747	-
28	6597	10.01.2013	455	Pur	2833	-
29	6603	02.09.2013	492	3964	3179	-
30	6644	03.10.2013	6625	Pur	3349	-
31	6646	02.07.2013	6627	Pur	3533	790
32	6693	06.11.2012	6656	Pur	3027	-
33	6708	18.03.2013	5573	Pur	2139	-
34	6723	11.04.2013	6105	4851	3224	-
35	6728	30.04.2013	6441	1875	2826	-
36	6753	13.07.2013	470	858	3389	-
37	6778	30.08.2013	5476	405	2669	-
38	6793	20.09.2015	6632	Pur	2796	-
39	6810	14.11.2013	6656	Pur	3027	-
40	6822	13.12.2013	490	2412	4090	-
41	6994	09.12.2014	408	5258	3188	-
42	7010	27.12.2014	415	4100	3068	-

9.21 Target achieved during the year 2015 – 2016

Sr. No.	Trait	Target	Achieved during 2015-16
1.	Av. Age at first service	24 months	28.20
2.	Av. Age at first calving	40 months	39.29
3.	Av. Age for initiating training of bulls	18 months	18.23
4.	Av. Age at first collection	30 months	23.01
5.	Av. Service period	130 days	134.03
6.	Calf mortality (0-3 months)	≤ 5 %	7.96
7.	Wet average	≥8.5 kg.	8.43
8.	Herd average	≥5.5 kg.	4.13

10. Research Achievements:

1. Activity carried out during the period: The NDRI center is involved for genetic improvement of Murrah Buffalo breed along with other centers under Network Project on Buffalo Improvement.

i) Technical Programme : During the reporting period, the breeding programme in the Murrah herd was followed for test mating of XVth and XVIth set of bulls. Fifteenth set had 15 bulls of which 12 bulls and 16th set had 15 bulls, of which one bull was used for test mating up to March, 2016. The dams' best lactation 305 day or less milk yield of test bulls had ranged from 2828 in first lactation to 4636 Kg. Three proven bulls were used for elite mating at the centre.

ii) Targets and Achievements : The herd strength was increased during the reporting period. Average age at first service and age at first calving of buffaloes were 28.20 and 39.29 month. Average age for initiating training and age at first collection of the young Murrah bulls has significantly reduced to 18.23 and 23.01 months. The average service period of buffaloes has been estimated as 134.03 days. The overall female conception rate in the herd was 40.53 %. The female calf (0-3 month) mortality was reduced to 7.96 %. The wet and herd average were increased to 8.43 Kg and 4.13 Kg, respectively. The average milk Fat, SNF and Total solid were estimated as 8.28 %, 9.60 %, and 17.88 %, respectively. The monthwise protein and lactose not estimated in the centre.

2. Selection of Young Murrah bull

Five elite Murrah male calves were reserved during the period (2015-16) on the basis of Expected Predicted Difference and dam's best 305d or less lactation milk yield, breed characteristics and physical conformity for selection of young male calves for future breeding. The dam's best 305 days lactation milk yield of reserved males ranged from 2951 Kg in first lactation to 3349 kg. The EPD and superiority of reserved Murrah male calves ranged from 15 to 110 Kg and 4.66 to 15.03 %, respectively. The center proposed 10 Murrah bulls out of which four breeding bulls were selected for test mating under XVI th Set. The dam's best 305 days milk yield of selected bulls ranged from 3349 in first lactation to 4090 kg.

3. Progeny Test Evaluation – Set-wise

The information on 305 days milk yield of daughters were collected, compiled for genetic evaluation of XII th set of Murrah bulls.

4. Technologies developed / Success story(s)

i). Developed Models for Predicting Energy Value of Milk of Murrah Buffaloes

Under Network Project on Buffalo Improvement at NDRI, Karnal, 6314 first lactation records of 756 Murrah buffaloes, calved between 1993 and 2014were analyzed for developing the prediction models for energy value of milk.

The results revealed that, most accurate model for prediction of energy value of milk was based on % F and % SNF together (R^2=98.73%), as presented in Table. Fat per cent alone contributed very high (R^2 = 97.52 %) to the total energy value of milk and therefore model based on % F alone can be used efficiently for accurate prediction of energy value of milk.

Developed prediction models for energy value of milk of Murrah buffaloes

Model No.	Prediction Model	R^2 (%)	MSSe	AIC	BIC
I	E = 96.48 (%F) + 332.74	97.52	32.80	- 4120.65	- 1024.40
II	E = 90.60 (%F) + 52.47 (%SNF) – 126.81	98.73	17.16	- 7457.20	- 1234.23

Where, E= Energy value of milk (kcal/kg); % F = Fat per cent; % SNF = Solid-not-fat per cent.

The developed models can be used for genetic evaluation of Murrah bulls as well as for the selection of female Murrah buffaloes based on energy value of milk. Further, the models can be utilized by dairy industry to judge the quality of milk of Murrah buffaloes and help in assessing the nutritional security in any location or village, rearing Murrah buffaloes in the country.

ii). Supply of Quality germplasm

The NDRI centre has supplied 6232 doses of semen to NDRI Field Unit and 12792 doses of frozen semen to farmers and other dairy development organizations during the period. The germplasm of genetically superior progeny tested bulls are being used on elite cows in organized herds for production of high-pedigreed bulls for further multiplication and production of superior germplasm. Superior semen of high-pedigreed bulls of NDRI center is being used by various dairy development agencies and dairy farmers for bringing genetic improvement of Murrah buffaloes.

5. Bulls for elite mating at the institute herd

The breeding programme in the herd was followed for nominated mating using semen of three Proven Murrah Bulls. About 43 Murrah buffaloes were identified as elite animals. The average lactation milk yield of elite Murrah buffaloes increased to 3294.11 Kg which was 53.35 per cent higher than the herd average. The best lactation milk yield of elite Murrah buffaloes ranged between 2833 Kg in first lactation to 4341 kg. Seventy three daughters and sixty two male calves were born in the herd of which 9 and 5 were elite female and male calves, respectively.

i) Provision of 20% higher energy above ICAR (2013) recommendations in the diet resulted no effect on average daily gain, scrotal circumference and ejaculate volume in Murrah buffalo bulls.

ii) Buffalo bulls provided with 10% higher energy than the recommended level in their diet not only produced superior quality (improved sperm concentration, motility, viability and morphology) fresh semen but also maintained it even after cryopreservation as compared to control and 20% HE groups, thereby suggesting the scope of its incorporation in management of high genetic merit bulls for quality germplasm production.

iii) Size of scrotal circumference correlated positively with the semen quality traits; hence SC is a useful indicator of sperm production and important criteria for selection of high genetic potential young bulls.

results obtained from the study will be helpful to harvest the quality semen at an early age in buffalo bulls and establishing the relationship between scrotal circumference size and semen production in buffalo bulls. So that selection of bulls can be made effectively.

7. Gaps/ Constraints, if any

The center has not faced any constraints during the period.

8. Future programme

1. The efforts will continue to further reduce the calf mortality, improving the reproduction and production performance of buffaloes for achieving the targets specified in the project.
2. Research has been initiated for genomic selection of Murrah bulls for reproduction and production performance.

Project Co-ordinator's observations on centre performance

Herd Performance

Herd strength increased from 513 in previous year to 585 in 2015-16, out of which 328 were breedable buffaloes (>2year). Number of breeding bull > 2 years are 64. During the period 149 calving took place consisting of 62 males, 73 females and 2 still births. The calf mortality (0-3 months) was 17.13 percent (31/181) which is higher than the target. Female conception rate reported as 40.5 percent (135/333). During the report period 16158 semen doses were produced from the 15th & 16th set bulls and 11227 frozen semen doses were consumed /distributed at farm and field.

Milk production performance viz. Average lactation yield, Lactation length, 305 day or less day milk yield were 2727.78 kg (n=118), 329.77 days (n=118) and 2523.32 kg (n=118), respectively. This is highest since 1996-97 and a quantum increase in 305 or less day milk yield is seen. Age at first calving, Average service period, Average dry period and average calving Interval were 39.29±1.3 months (n=24), 134.03±22.5 days (n=92), 130.75±14.73 days (n=92) and 429.99±23.21 days (n=92). The centre has maintained its reproduction performance over the years. The wet and Herd averages were 8.43 kg & 4.13 kg. During the report period 55.44 percent animals were in milk. The centre showed improvement in wet average.

Targets achieved during 2015-16

Sr. No.	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service	24 months	28.20	27.91
2.	Av. Age at first calving	40 months	39.29 (24)	40.39
3.	Av. Age for initiating training of bulls	18 months	18.23	17.60
4.	Av. Age at first collection	30 months	23.01	22.75
5.	Av. Service period	130 days	134.03 (92)	135
6.	Calf mortality (0-3 months)	≤ 5%	17.13	11.86 %
7.	Wet average	≥ 8.5 kg.	8.43 kg	8.05 kg
8.	Herd average	≥ 5.5 kg.	4.13 kg	5.10 kg

Recommendations:

- The improved production performance need to be sustained and nominated mating strictly be followed for superior bull production.
- Bull having dams 305 days or less day milk yield < 2500 kg may be culled off from the herd and culling may be performed twice in a year to keep the herd strength reasonable. Bull old as 5-6 years, are not desirable. Efforts should be made to freeze 10000 frozen semen doses within first year of bull in production.
- Conception rate needs to be improved with greater emphasis for getting higher percent buffaloes in milk for improved herd average.

ICAR- INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

1.	Name of centre	:	I.V.R.I., Izatnagar
2.	Project Code	:	-
3.	Project Title	:	Network Project on Murrah Buffaloes
4.	Date of Start	:	01.07.1993
5.	**Objectives:**	:	As specified
6.	**Technical Programme:**	:	As specified
7.	**Financial Statement:**	:	All the requirements were met out from the Sectional budget of L.P.M. No separate budget was allocated to this project from the Institute fund.
8.	**Staff and infrastructural buildup during the year**	:	Redeployment Equipment purchase, livestock purchase and work undertaken …. **Nil**

9. HERD PERFORMANCE

9.1 Herd Strength during the Period 4/2015 to 03/2016

Sl.	Category	Addition			Disposal			CB
		OB	B	T	D	T	S	
	Female							
1.	Female Calves < 3 month	2	26	-	4	19*	-	5
2.	Female Calves 3-6 months	9	-	19*	-	22*	1	5
3.	Female Calves 6-12 months	17	-	22*	-	28*	-	11
4.	Female above							
	1-2 years	20	-	28*	-	20*	-	28
	2-2.5 years	8	-	20*	-	20*	1	7
	Above 2.5 years	17	-	20*	-	20*	-	17
5.	Buffaloes in Milk	49	-	20*	2	14*	3	50
6.	Buffaloes							
	Pregnant	11	-	14*	-	-	-	19
	Non-pregnant	-	-	-	2	-	6	-
	Sub Total	**133**	**26**	**143***	**6**	**143***	**11**	**142**
Male								
1.	Male Calves < 3 months	6	33		8	26*	-	5
2.	Male Calves 3-6 months	14	-	26*	-	31*	-	9
3.	Male Calves 6-12 months	12	-	31*	4	10 18*	1	10
4.	Male above							
	1) 1-2 year	3	-	18*	1	1 3*	-	16
	2) > 2 year	-	-	3*	-	1*	2	-
5.	Breeding bulls	3	-	1*	-	-	-	4
6.	Bullocks	-	-	-	-	-	-	-
7.	Teasers	2	-	-	-	-	-	2
	Sub Total	**40**	**33**	**-**	**13**	**11**	**3**	**46**
	Grand total	**173**	**59**	**-**	**19**	**11 222***	**14**	**188**

OB = Opening Balance D = Death S = Sale B = Birth
T = Transfer CB = Closing Balance * Internal transfer

9.2 Calving Statistics during the period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	-		-	-									-	-
May	-		-	-									-	-
June	-		1	3.85									1	1.69
July	3	9.09	3	11.54									6	10.17
August	3	9.09	3	11.54									6	10.17
September	8	24.24	4	15.38									12	20.34
October	4	12.12	3	11.54									7	11.86
November	5	15.15	4	15.38									9	15.25
December	5	15.15	3	11.54									8	13.56
January,16	3	9.09	3	11.54									6	10.17
February	1	3.03	2	7.69									3	5.08
March	1	3.03	0	0.00									1	1.69
Overall	33	100.0	26	1000									59	100.0

Sex Ratio Male: Female = 1.27:1.00

9.3 Disposal of Animals during the Period 4/2015 to 3/2016

Sr. No.		Surplus	Rep. Problem	Weal & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months	-	-	1	4	-	5
2.	Calves >3 – 12 months	-	-	-	-	-	
3.	Heifers 1 – 2 years > 2 years		- 1	- -	- -	- -	- 1
4.	Buffaloes in Milk		2	1	1		4
5.	Buffaloes Dry P /NP		3	3	1		7
	Sub Total		**6**	**5**	**6**		**17**
	Male						
1.	Calves 0 – 3 months	-	-	-	8	-	8
2.	Calves >3 – 12 months	1	-	-	4	10	15
3.	Male 1 – 2 years > 2 years	- 2	- -	- -	1 -	1 -	2 2
4.	Breeding bulls	-	-	-	-	-	-
5.	Bullocks	-	-	-	-	-	-
6.	Teasers	-	-	-	-	-	-
	Sub Total	3	-	-	13	11	27
	Grand Total	3	6	5	19	11	44

9.4 Month wise Mortality during the Period 4/2015 to 03/2016

Months		Female						Male					
		0-3 m	3-6 m	6-12 m	1-2 Yrs	Above 2 Yrs	Overall Female	0-3 m	3-6 m	6-12 m	Above 1 Yrs	Overall Male	Overall Group
Overall	No.	28	28	39	48	159	159	39	40	43	30	73	238
	Died	4	-			2	6	8	-	4	1	13	19
	%	14.29	-	-	-	1.26	3.77	20.51	-	9.30	3.33	17.81	7.98

Overall calf mortality (0-3m) was 17.91 %.

9.5 Causes of Mortality (quarter wise) during the period 04/15 to 03/16

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter	Total
A. Respiratory System:					
Granulomatous Pneumonia/ Pneumonia enteritis / Septicemia	-	1	1	-	2
B. Digestive System:					
Septicemia & Toxemia/ Enteritis leading to Septicemia, Acute Abomasamitis & Septicemia , Fibrous Pleuritis, Acute Peritonitis	3	3	2	-	8
C. Others					
1. Still birth / NSD	2	-	1	-	3
2. Nothing Specific/ Autolysed	1	-	-	-	1
3. Post mortem report not available	-	-	2	-	2
4. Dehydration due to Severe diarrhea	-	-	-	-	-
5. Lesion suggestive of F.M.D.	-	-	-	2	2
6. Lesion suggestive of gastro-enteritis	-	-	-	1	1
7. Lesion were suggestive of acute Myocarditis	-	-	-	1	1
8. Acute Myocarditis & catarrhal enteritis	-	-	-	1	1
9. Rabies	-	-	-	1	1
Total	6	4	6	6	22

9.6 Prophylactic Measures Taken During the Period 4/2015 to 03/2016

Vaccination	**No. of animals**		**Screening**	**No. of animals**		**No of animals treated for Parasitism etc.**
	Available	**Inoculated**		**Tested**	**Result**	
F.M.D.		376	Faecal samples sent to Parasitalogy Div. for Endoparasiste examine	104	101 found negative and 03 sample were found positive.	Ectoparasites-384 Endoparasites-407 Coccidiostat-110 Liq. Vitamin supplement-157 Feed supplement-218 Postnatal Coverage-59
H.S.		142				
Brucellosis		38				
TB						
JD						

9.7.Calving Abnormalities (Quarter wise) during the period 4/2015 to 03/2016

Quarter	No. of calvings	Unseen Abortions		Abortion		Prolapse		Dystokia		Retention of Placenta		Overall abnormalities	
		N	%	N	%	N	%	N	%	N	%	N	%
I	-	-	-	1	1.61	-	-	-	-	1	1.61	2	3.23
II	-	-	-	-	-	1	1.61	-	-	1	1.61	2	3.23
III	-	2	3.23	-	-	-	-	-	-	1	1.61	3	4.84
IV	-	-	-	-	-	-	-	-	-	-	-	-	
Overall	62	2	3.23	1	1.61	1	1.61	-	-	3	4.84	7	11.29

* abortions and unseen abortions were added in total calvings to calculate %ages

9.7 Female conception rate during the period April 2015 to January 2016 (2015-16)

NUMBER OF INSEMINATIONS																		
Parity	1st AI			2nd AI			3rd AI			4th AI			5th & above			Overall		
Particulars	I	C	CR%	I	C	CR%	I	C	CR%	I	C	CR%	I	C	CR%	**I**	**C**	**CR%**
Heifers	12	8	66.66	4	3	75	1	1	100	1	1	100	-	-	-	**18**	**13**	**72.22**
Adult	37	18	48.64	16	9	56.25	4	-	-	5	-	-	4	1	25	**66**	**28**	**42.42**
Overall	**49**	**26**	**53.06**	**20**	**12**	**60**	**5**	**1**	**20**	**6**	**1**	**16.66**	**4**	**1**	**25**	**84**	**41**	**48.80**

I=Inseminated, C= Conceived, C%=Conception rate

9.8 Bull wise Conception Rate Inseminated during April 15 to January 2016

Sl.	Bull No.	Total No of AI Diagnosed	Total Conceived	CR %
1.	4438	3	2	66.66
2.	6290	8	4	50.00
3.	4328	10	6	60.00
4.	2429	10	5	50.00
5.	6007	6	2	33.33
6.	6139	9	4	44.44
7.	6405	5	2	40.00
8.	4363	7	4	57.14
9.	2412	4	2	50.00
10	2459	5	3	60.00
11.	4403	9	5	55.55
12.	2371	8	2	25.00
Total		84	41	48.80

9.9 Bull wise semen stock/ set-wise of buffaloes (1st April, 2015 to 31st Jan, 2016)

S.No.	Bull No	Opening balance 1ST April 2016	Semen Produced/ Received	Consumption / supplied	Balance as on 31.03.2016
XI th SET					
1.	4438	42	-	38	4
2.	6290	34	-	34	NIL
3.	4328	67	-	67	NIL
4.	2429	26	-	26	NIL
5.	6007	26	-	26	NIL
6.	6139	42	-	42	NIL
7.	6405	15	-	15	NIL
8.	4363	38	-	38	NIL
9.	2412	26	-	26	NIL
10.	2459	42	-	42	NIL
11.	4403	42	-	42	NIL
12.	2371	50	-	50	NIL

9.10 Body weight since inception of Network

	Body Weight (in kg) at						
Year	At Birth	3 Months	6 Months	12 Months	18 Months	24 Months	At AFC
1992-93	26.30 (30)	60.78 (11)	120.30 (11)	201.43 (11)	265.31 (08)	350.41 (10)	-
1993-94	25.81 (16)	63.95 (19)	102.67 (15)	170.59 (17)	263.82 (17)	319.47 (09)	-
1994-95	25.97 (31)	51.52 (04)	77.12 (26)	148.82 (34)	217.00 (15)	284.05 (16)	-
1995-96	24.25 (08)	56.67 (03)	105.00 (01)	165.00 (05)	220.33 (15)	286.25 (24)	-
1996-97	24.38 (16)	86.67 (03)	117.50 (04)	217.50 (02)	248.15 (04)	368.00 (04)	-
1997-98	24.84 (19)	92.50 (18)	123.75 (12)	224.29 (14)	254.50 (10)	366.25 (08)	-
1998-99	26.98 (20)	89.50 (21)	125.41 (13)	220.00 (06)	240.30 (07)	350.81 (08)	-
1999-00	23.60 (20)	63.60 (10)	120.46 (11)	183.33 (09)	245.00 (07)	310.67 (15)	-
2000-01	24.36 (33)	50.55 (11)	99.28 (14)	195.00 (10)	261.50 (10)	342.50 (08)	-

2001-02	26.73 (11)	59.37 (08)	95.00 (09)	183.63 (11)	284.23 (13)	359.44 (09)	-
2002-03	29.07 (14)	81.11 (09)	107.08 (12)	195.62 (16)	277.14 (07)	347.27 (11)	-
2003-04	31.66 (40)	58.50 (18)	98.75 (32)	196.66 (14)	326.34 (16)	366.40 (17)	-
2004-05	32.52 (62)	60.60 (40)	97.66 (25)	187.91 (12)	271.66 (12)	368.00 (11)	501.50 (10)
2005-06	31.77 (63)	57.96 (32)	96.66 (42)	186.51 (32)	300.19 (20)	369.22 (16)	600.50 (10)
2006-07	31.98 (50)	63.78 (34)	98.30 (26)	195.74 (20)	279.34 (21)	357.87 (21)	588.37 (52)
2007-08	30.53 (63)	67.74 (69)	112.19 (67)	196.85 (41)	279.83 (20)	351.82 (16)	475.38 (13)
2008-09	31.07 (73)	62.51 (56)	101.57 (50)	182.02 (39)	235.56 (33)	355.89 (23)	477.81 (16)
2009-10	30.64 (67)	73.55 (46)	112.64 (38)	187.74 (43)	269.50 (39)	331.37 (25)	509.00 (15)
2010-11	30.34 (67)	78.71 (39)	123.34 (46)	225.55 (38)	292.16 (56)	352.22 (23)	483.75 (20)
2011-12	32.75 (54)	63.40 (43)	123.73 (34)	226.53 (26)	308.13 (18)	377.90 (24)	498.44 (16)
2012-13	35.58(53)	69.43(47)	126.63(42)	234.26(25)	334.62(13)	391.25(16)	527.71(07)
2013-14	33.37 (57)	70.98 (53)	125.15 (47)	247.27 (33)	330.45 (25)	409.69 (16)	539.58 (12)
2014-15	36.57 (63)	77.34 (50)	110.26 (38)	224.69 (32)	342.86 (21)	407.41 (27)	530.56 (18)
2015-16	32.37 (59)	68.20 (44)	100.88 (51)	222.28 (46)	319.44 (27)	411.50 (20)	505.56 (9)

9.11 Production Performance of Buffaloes Completing Lactation during 4/2015 to 3/2016

Lact No.	No of obs.	Av. total lact. yield (kg)	Av. lact. length (d)	Av. 305 or less days MY (kg)	Av. peak yield (kg)
1st	7	2433.86±216.05	316.86±25.80	2294.93±155.26	11.57±0.46
2nd	12	2402.00±145.26	284.92±13.43	2374.96±137.12	12.88±0.84
3rd	11	2598.27±126.78	297.09±19.29	2539.05±115.72	13.23±0.56
4th	6	2693.08±180.61	355.17±33.98	2475.17±130.26	13.67±1.29
5th	3	2053.83±373.10	270.00±31.26	1989.50±308.82	11.33±1.36
6th	-	-	-	-	-
≥7th	12	2061.00±151.38	281.33±18.07	2005.25±141.97	10.88±0.70
Overall	51	2382.24±74.18	298.47±8.99	2301.49±65.44	12.30±0.35

9.12 Production performance of buffaloes since inception of network

Year	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
1992-93	1502.60±57.03 (34)	297.91±9.24 (34)	1457.72±48.65 (34)	07.88±0.35 (26)
1993-94	1557.30±57.07 (28)	276.32±8.46 (28)	1537.17±49.53 (28)	09.05±0.33 (30)
1994-95	1546.66±51.03 (32)	259.25±6.62 (32)	1535.94±40.61 (32)	09.58±0.30 (35)
1995-96	1522.72±55.66 (27)	323.15±7.65 (27)	1456.50±51.77 (27)	07.40±0.39 (21)
1996-97	1738.33±94.52 (20)	341.10±13.41 (20)	1629.27±76.30 (20)	07.91±0.38 (23)
1997-98	1830.99±119.31 (23)	320.35±19.41 (23)	1714.57±95.93 (23)	08.34±0.39 (22)
1998-99	1980.32±97.68 (22)	320.05±12.09 (22)	1980.32±97.68 (22)	08.45±0.39 (21)
1999-00	2106.83±107.58 (18)	309.94±11.65 (18)	2025.83±98.47 (18)	09.78±0.35 (26)
2000-01	2011.15±169.51 (20)	277.15±27.11 (20)	1897.80±147.16 (20)	10.56±0.39 (22)
2001-02	2090.67±78.93 (28)	317.42±9.75 (28)	2101.89±75.21 (19)	10.12±0.36 (28)
2002-03	1999.43±88.39 (55)	298.55±9.95 (05)	2043.49±66.45 (55)	10.73±0.45 (55)
2003-04	2070.94±98.94 (26)	306.51±14.68 (26)	2103.31±118.1 (26)	10.99±0.68 (26)
2004-05	2182.47±92.90 (31)	299.05±8.98 (31)	2216.03±86.06 (31)	11.25±0.47 (31)
2005-06	2166.92±92.42 (45)	307.66±9.70 (45)	2217.55±89.44 (32)	09.96±0.62 (45)
2006-07	2338.20±89.28 (43)	319.85±6.96 (43)	2412.86±88.60 (27)	11.00±0.43 (43)
2007-08	2379.09±66.65 (56)	296.51±3.93 (56)	2525.47±109.09 (28)	11.89±0.33 (56)
2008-09	2257.76±49.49 (43)	291.89±4.87 (43)	2208.95±106.07 (16)	11.00±0.28 (43)
2009-10	2418.25±77.48 (51)	298.50±6.77 (51)	2570.48±91.81 (26)	11.82±0.35 (51)
2010-11	2157.78±64.94 (56)	286.40±4.89 (56)	2136.48±63.14 (56)	11.16±0.38(56)
2011-12	2208.41±70.08 (49)	308.75±7.72 (49)	2276.82±82.85 (27)	11.54±0.37(49)
2012-13	2249.40±8.46 (38)	316.43±8.41(38)	2242.31±108.05(20)	11.01±0.34(38)
2013-14	2113.36±56.07 (47)	304.27±7.95 (47)	2037.79±62.44 (47)	11.52±0.25 (47)
2014-15	2188.82±55.81 (53)	288.81±8.02 (53)	2135.85±51.77 (53)	10.89±0.31 (53)
	2382.24±74.18 (51)	298.47±8.99 (51)	2301.49±65.44 (51)	12.30±0.35 (51)

* 319 kg milk is added in pail yields on account of milk suckled by calf

9.13 Average Milk Components during the Period (Month-wise) 4/2014 to 3/2015

Month	Animal in milk (N)	Av. Fat (%)	SNF	Protein	Lactose
April, 2015	86	7.90	10.06	17.96	
May	82	7.98	10.02	18.00	
June	74	7.91	10.05	17.96	
July	56	7.91	10.17	18.08	
August	68	7.81	10.02	17.83	
September	70	7.86	10.02	17.88	
October	80	7.85	9.98	17.63	
November	92	7.82	10.02	17.84	
December	94	7.81	10.21	18.02	
January, 16	88	8.11	10.08	18.19	
February	104	8.06	10.13	18.19	
March	102	7.97	10.00	17.97	
Overall	996	7.91	10.06	17.96	

9.14 Reproduction Performance of buffaloes calving during the Period 4/2015 to 03/2016

Traits		1	2	3	4	5	6	≥7	Overall
Average Age at Calving (m)	N	9	-	-	-	-	-	-	9
	X	40.23	-	-	-	-	-	-	40.23
	SE	2.64	-	-	-	-	-	-	2.64
Average Service Period (days)	N	5	11	10	5	3	1	16	51
	X	129.40	100.64	175.90	173.40	84.33	86.00	157.75	142.02
	SE	23.49	15.45	47.89	51.82	9.56	-	29.21	14.76
Average Dry Period (Days)	N	-	10	12	6	3	1	17	49
	X	-	117.40	173.83	155.50	111.33	64.00	157.24	148.24
	SE	-	9.47	28.30	30.94	14.45		21.35	11.26
Average Calving Interval (Days)	N	-	10	12	6	3	1	17	49
	X	-	428.90	478.58	464.67	387.33	396.00	443.71	447.37
	SE	-	15.05	41.26	47.88	8.67	-	29.50	15.72

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (Months)						
Average Service Period (Days)						
Average Dry Period (Days)						
Average Calving Interval (Days)						

9.14.1 Reproduction Performance of Buffaloes calving since inception of Network

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
1992-93	33.61±1.72 (10)	119.67±33.72 (08)	129.86±10.63 (07)	403.63±21.77 (08)
1993-94	39.38±2.99 (07)	100.90±16.01 (10)	133.15±12.72 (13)	406.08±16.77 (12)
1994-95	38.27±1.70 (10)	77.33±05.56 (09)	129.10±09.72 (20)	377.00±08.00 (20)
1995-96	37.90±1.08 (14)	100.00±11.78 (06)	118.71±11.77 (07)	401.14±16.55 (07)
1996-97	42.08±3.38 (04)	125.14±11.23 (07)	146.00±38.31 (08)	424.00±23.55 (07)
1997-98	40.14±3.38 (06)	82.55±06.54 (11)	101.73±25.10 (11)	391.55±13.11 (11)
1998-99	43.42±2.28 (08)	152.50±25.80 (11)	12.58±08.87 (10)	437.83±15.33 (10)
1999-00	48.80±7.03 (06)	189.82±28.65 (16)	110.36±13.67 (11)	422.46±21.47 (11)
2000-01	42.37±2.81 (04)	164.94±22.66 (17)	126.66±10.74 (09)	410.78±13.05 (09)
2001-02	44.35±2.58 (11)	134.25±24.63 (12)	134.00±15.33 (12)	440.52±23.81 (12)
2002-03	41.20±2.90 (04)	404.60±96.25 (05)	310.77±54.92 (09)	585.50±69.01 (04)
2003-04	41.82±3.19 (08)	108.36±15.51 (19)	256.81±35.81 (29)	553.20±36.24 (29)
2004-05	42.55±1.75 (08)	149.71±15.59 (30)	212.75±29.94 (37)	480.71±28.12 (37)
2005-06	42.25±2.43 (10)	179.91±28.47 (54)	204.41±41.40 (38)	477.45±42.50 (37)
2006-07	41.87±2.26 (10)	139.01±15.40 (40)	171.09±21.44 (28)	452.42±21.30 (30)
2007-08	45.84±0.96 (28)	114.97±07.56 (62)	150.33±19.04 (43)	443.24±21.39 (43)
2008-09	39.73±1.79 (48)	152.44±11.71 (48)	167.02±10.70 (48)	451.51±10.57 (48)
2009-10	41.32±4.73 (15)	121.77±11.25 (59)	154.69±14.01 (63)	444.64±13.01 (63)
2010-11	39.59±1.16 (25)	175.27±16.26 (26)	183.24±21.07 (60)	449.08±15.74 (60)
2011-12	45.61±3.21 (20)	152.91±20.66 (29)	207.38±22.22 (39)	460.89±17.90 (39)
2012-13	39.69±2.79 (7)	213.49±26.37 (30)	232.93±21.36 (31)	479.29±22.88 (31)
2013-14	38.20±2.15 (18)	140.07±12.79 (39)	170.63±11.86 (39)	470.87±14.03 (39)
2014-15	37.64±1.33 (18)	123.84±10.72 (55)	162.27±16.31 (44)	439.48±15.97 (44)
2015-16	40.23±2.64 (9)	142.02±14.76 (51)	148.24±11.26 (49)	447.37±15.72 (49)

9.15 Month wise Milk Production and disposal during the Period 4/2015 to 03/2016

Month	Total Milk Production (kg)	Disposal		
		Liquid Milk	Calf Feeding	Exptl.
April, 2015	9368.0	**The whole milk was given to DT Section (LPT) for disposal**		
May	8559.0			
June	6974.0			
July	5663.0			
August	5909.0			
September	6727.0			
October	9118.0			
November	9688.0			
December	10418.0			
January 2016	10763.0			
February	10569.0			
March	10488.0			
Total	104244.0			

9.16 Feed and fodder purchased and offered to animals during the period 4/2015 to 3/2016

Quarter	Type of fodder	Actually fed (Qtls.)*
I	Green /Semi Dry	4544.9
	Dry	121.9
	Silage	-
	Concentrate	444.0
II	Green /Semi Dry	4443.6
	Dry	73.8
	Silage	89.5
	Concentrate	442.7
III	Green /Semi Dry	4902.4
	Dry	230.1
	Silage	83.7
	Concentrate	491.1
IV	Green /Semi Dry	5965.8
	Dry	172.8
	Silage	-
	Concentrate	494.3
Total	Green /Semi Dry	19856.7
	Dry	598.6
	Silage	173.2
	Concentrate	1872.1

*Concentrate mixture supplied/purchased by F.T. Unit of Institute

9.17 Milking performance during the period 4/2015 to 03/2016

Month/Year	No. of Animal in Milk	No. of Animal Dry	Total Animal	% in Milk	Wet Av. (kg)*	Herd Av. (kg)*
April, 2015	46.0	13.30	59.30	77.57	6.79	5.27
May	41.42	17.58	59.00	70.20	6.67	4.68
June	37.03	20.03	57.07	64.95	6.28	4.07
July	33.87	24.26	58.13	58.27	5.39	3.14
August	34.10	26.13	60.23	56.62	5.59	3.16
September	36.93	28.93	65.87	56.07	6.07	3.40
October	41.65	28.03	69.68	59.77	7.06	4.22
November	47.50	24.87	72.12	65.82	6.80	4.47
December	50.94	23.06	74.00	68.84	6.60	4.54
January, 2016	49.87	22.42	72.29	68.99	6.96	4.80
February	51.83	17.17	69.00	75.12	7.03	5.28
March	52.23	16.77	69.00	75.70	6.48	4.90
Overall	43.61	21.88	65.47	66.49	6.48	4.33

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal Dry	Total Animal	% in Milk	Wet Ave.* (kg)	Herd Ave.* (kg)
1992-93	22.44	13.56	36	62.33	4.31	2.68
1993-94	38.15	25.85	64	59.60	4.62	2.75
1994-95	38.62	44.38	83	46.53	3.90	1.81
1995-96	29.17	41.83	71	41.08	3.63	1.49
1996-97	28.20	31.80	60	47.00	4.19	1.96
1997-98	26.67	23.33	50	53.34	4.84	2.58
1998-99	20.30	22.70	43	47.20	5.79	2.73

1999-00	22.64	11.36	31.70	71.41	4.77	4.17
2000-01	26.97	10.03	38.73	69.63	5.42	3.80
2001-02	32.61	19.17	51.78	59.80	5.82	3.64
2002-03	33.64	29.98	63.62	51.75	4.94	2.47
2003-04	36.82	54.79	91.61	39.67	5.94	2.46
2004-05	37.68	53.90	91.58	40.95	5.99	2.53
2005-06	45.64	53.22	98.87	46.16	6.14	3.07
2006-07	41.42	35.33	76.75	53.96	6.15	3.42
2007-08	62.03	33.16	93.23	66.53	5.98	4.05
2008-09	53.45	31.23	84.69	63.12	6.69	4.27
2009-10	45.28	41.66	86.94	52.08	6.68	3.34
2010-11	46.67	43.33	90.00	51.85	5.88	3.14
2011-12	40.68	31.56	72.27	57.44	5.82	3.39
2012-13	39.16	23.08	62.25	62.92	5.66	3.59
2013-14	44.94	22.84	67.78	65.97	5.85	3.91
2014-15	42.93	23.36	66.05	65.15	6.80	4.49
2015-16	43.61	21.88	65.47	66.49	6.48	4.33

*based on pail yields.

9.18 Bull wise daughters born during the period 4/2015 to 03/2016

Bull No.	Total No. of daughters born (daughter numbers)	No. of daughters reaching AFC	No. of daughters completing 1st Lact.	Last Lactation
4354	174/2015,203/15*,207/15,209/15,			
4324	176/2015,179/2015,184/2015,198/2015,205/15*,			
2417	177/2015			
2429	183/2015			
2412	185/2015,189/2015,213/15,			
2371	187/2015,194/2015,199/15,			
6405	214/15, 223/16			
4363	217/15*,220/15*, 226/16			
6290	218/15			
4438	228/16			
4328	229/16			
6139	231/16			

*Died

9.19 Bull Wise Daughters performance (first lact. 305 days yield) during 4/15 to 03/16

Sl. No.	Bull No.	Daughter number	Date of Birth	Date of Calving	First lact. 305 days MY	Total Yield /LL	Remarks
1.	183	1090	21/02/12	03/12/14	-	2165.5/286	
2.	5489	938	22/11/09	20/07/14	2674.5	3075.5/427	
3.	3591	991	14/09/10	19/08/14	-	2210.5/289	
4.	R-11	1024	20/01/11	11/07/14	-	1716.0/287	
5.	5720	1026	22/03/11	31/08/14	28.00.5	2933.5/336	
6.	5604	1069	16/10/11	08/09/14	-	2532.0/279	
7.	5943	40/12	08/12/12	27/11/15	-	36.0/17	
8.	3598	1071	21/10/11	24/11/14	2607.0	3045/380	
9.	5943	38/12	05/12/12	13/08/15	-	530.5/148	Auctioned
10	4059	18/12	26/08/12	04/07/15	-	1722.5/230	

9.20 List of breeding/young bulls as on 31/03/2016

Sr. No.	Bull No.	Date of birth	Dam No.	Sire No.	Dam's best lact. 305-days or less yield (kg)	Semen doses available	Remarks
1.	985	08/09/10	400	HAU	3030.0/II	-	-
2.	1054	23/08/11	714	5604	3453/II	-	-
3.	1084	05/01/12	709	3598	3025/V	-	-
4.	68/2013	13/08/13	717	1875	3078.5/I	-	-

9.21 Target achieved during the year 2015-16

Sr. No.	Trait	Target	Achieved
1.	Av. Age at first service (months)	24 m (300 kg. LBW)	26.92
2.	Av. age at first calving	40 month	40.23
3.	Av. age for initiating training of bulls (months)	18 month (350 kg)	18
4.	Av. age at first collection	30 month (400 kg)	NA
5.	Av. service period	130 day	142.02
6.	Calf mortality (0-3 months)	≤ 5%	17.91
7.	Wet average*	≥ 8.5 kg	6.48
8.	Herd average*	≥ 5.5 kg	4.33

* Wet and herd averages reported are based on pail yields.

10. SALIENT RESEARCH ACHIEVEMENTS:

(a) Herd Strength: The opening balance (herd strength) of Murrah buffaloes as on 01/04/2015 was 173 heads (40 males and 133 females). Additions in the herd were due to birth of 26 female and 33 male calves (59 heads). Deletions from the herd were due to death of 19 animals (13 males and 6 females), external transfer of 11 males and auction/sale of 14 buffaloes (3 males and 11 females. In all, 44 animals were deleted from the herd due to various reasons whereas 59 animals were added due to new births. The new calvings showed a peak of 12 calvings during September 2015 and no calvings during April-May, 2015. The male: female ratio of new calvings was 1.27:1.00. The closing balance of the buffalo herd as on 31/03/2016 was 188 buffalo heads (142 females and 46 males.

Out of total 25 animals culled/sold during the current year, all buffaloes (14 males and 11 females) were sold/auctioned due to surplus/off-type/low production, reproductive ground along with weak and old buffaloes.

(b) Mortality (Detailed): The overall mortality per cent was 7.98%. The overall female and male group mortality percents were 3.77 and 17.81%, respectively. A total of 19 deaths were recorded in IVRI buffalo herd during the current year (13 males and 6 females).

(c) Prophylaxis: The prophylaxis measures taken in the Murrah Buffaloes.

(d) **Reproductive Performance:** The overall conception rate was 48.80%. The respective figures in heifer and adult groups were 72.22 and 42.22%, respectively. The overall calving abnormalities were 11.29%, which included 1.61% abortions, 3.23% unseen abortions, 4.84% retention of placenta and 1.61% prolaps. The bull wise conception rates are presented in Table 9.9. Bull wise semen stock position during the report period. The least squares' means (LSM) for age at first calving, service period, dry period and calving interval were 40.23±2.64 months, 142.02±14.76 days, 148.24±11.26 days and 447.37±15.72 days, respectively. Month-wise calving statistics along with sex ratio (Male: Female:: 1.27:1.00).

(e) **Growth performance:** The least squares' means (LSM) for overall live body weights at birth, 3, 6, 12, 18 and 24 months of age were 32.37±0.81, 68.20±1.66, 100.88±2.53, 222.28±7.13, 319.44±11.50 and 411.50±8.44 kg, respectively. The respective values for females and males were 30.69±1.30, 63.11±2.13, 96.14±2.94, 205.54±7.78, 311.46±11.05 and 411.50±8.44 kg, respectively, and 33.70±0.99, 71.73±2.16, 104.48±3.75, 248.33±11.33, 383.33±44.10 kg and nil, respectively. The weight at first calving during the current year was 505.56±27.33 kg.

(f) **Milk Production Performance:** Buffaloes produced 104244.0 kg milk during the period under report (Table 9.15). Means for overall wet and herd averages were 6.48 and 4.33 kg, respectively (Table 9.17 and 9.17.1). On an average, 65.47% of the total adult females were in the milk during this period (Table 9.17).

The means for fat, SNF and total solid % were 7.91, 10.06 and 17.96%, respectively (based on 996 samples.

The analysis for lactation traits was done for animals expressing normal lactation length i.e. 5 months or more.

(g) The feeds and fodder supplied to the buffaloes of the project are presented in Table 9.16.

11. Publications/Presentations:

a. Research Papers : 8
b. Technical/popular articles : 2
c. Book Chapters : Nil
d. Presentations In Conferences/Symposia/Seminars/Other Form: 4
e. Invited Lectures : 9

12. Expected Socio-economic impact in the tract:

Surplus Murrah buffaloes along with breeding males have been sold in the public auction to the local dairy farmers. It will not only improve the milk and meat production in the field in the form of Murrah/graded Murrah progenies but will also uplift the socioeconomic status of the dairy farmers of northern India.

13. Constraints (if any): -None-

14. Focus of the work in the coming year:

a. To increase the number of elite buffaloes in the herd.
b. To carry out the envisaged technical programme for fulfillment of laid down objectives.
c. To distribute superior germ-plasm to the buffalo farmers in field.
d. To establish a high yielding nucleus herd of Murrah buffaloes at IVRI Izatnagar.

Project Co-ordinator's observations on centre performance

Herd Performance

Herd strength at the centre was 188 including 93 breedable buffaloes (>2 year). During the report period 59 calving were reported and calf mortality (0-3 months) was 17.91 % (12/67). Conception rate was 48.80 %. 15th set bulls were used for test mating in the herd. Body weights at 24 months 411.50±8.44 (n=20) in female indicate good growth of the animals. Production performance in terms of 305 days or less day milk yield was 2301.49±65.44 (n=51) kg which was higher than the previous year record of 2135.85±51.77 (n=53). Reproductive performance of the centre improved over the years. AFC at the centre was 40.23 ±2.64 (n=09) showing the better heifer management at the centre. Service period, Dry period and Calving Interval were 142.02±14.76 (n=51), 148.24±11.26 (n=49) and 447.37±15.72 (n=49) respectively. Wet & herd averages are reported as 6.48 kg and 4.33 kg, respectively. Out of 65 animals, 66.49% animals were in milk during the period.

Targets achieved during 2015-16

Sr. No.	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	24 m (300 kg. LBW)	26.92	28.21
2.	Av. age at first calving	40 m	40.23	37.64
3.	Av. age for initiating training of bulls (months)	18 m (350 kg)	18 (383.33 kg)	--
4.	Av. age at first collection	30 m (400 kg)	--	--
5.	Av. service period	130 d	142.02	123.84
6.	Calf mortality (0-3 months)	≤ 5%	17.91 %	1.54 %
7.	Wet average	≥ 8.5 kg	6.48 kg	6.80 kg
8.	Herd average	≥ 5.5 kg	4.33 kg	4.49 kg

Recommendations:

- Need to sustain the improvement last two year in the performance traits.
- Percent calf mortality (0-3 months) needs to be reduced with examination and management of probable factor.
- There is no purpose of maintaining breeding bulls in IVRI herd.
- Table 9.21.1 needs to give exact figures for 305 day milk yield w.r.t year 2005-06 to 2012-13 number of observation are different.
- Calf health and AFC are good.
- No bulls were indicated for XVI set and now 4 bulls of 3 to 6 years are standing?

LUVAS, HISAR

1. **Name of Centre**: Buffalo Research Centre
   Department of Livestock Production Management
   LUVAS, Hisar
2. **Date of start:** 1993
3. **Objectives:** To envisage and undertake progeny testing for improvement of Murrah breed of buffaloes. Priority and emphasis will be on performance recording and improvement of breed and on semen quality testing laboratory.

4 **Technical Program**: The technical programme involves testing of 12-15 bulls on about 1000 breedable buffaloes at organized farms participating in this project in every 18-month's cycle. From each bull 75-80 pregnancies are to be obtained so that 20-25 recorded daughters per bull are available at all the centers for the evaluation of bulls. The bulls will be ranked on the basis of performance of their daughters and 20 percent of them will be selected as proven bulls from each set. The semen of the proven bulls will be used on elite buffaloes at different centers for the production of future sires and herd replacements.

5. **Financial statement**: Statement of allotment and expenditure for the year 2015-16 as under:

Code 5508 C(b) LPM-3 ICAR

SOE	**Allotment**	**Expenditure**	**Balance**
M&S	41,32,000	41,23,281	8,719
OC	8,50,000	8,40,875	9,125
M&E	-	-	-
TA	80,000	33,712	46,288
POL	50,000	48,161	1,839
OE (O)	-	-	-
Electrical	5,68,000	5,68,000	-
Total	6,00,000	5,89,000	11,000
	62,80,000	62,03,029	76,971

6. Staff position: (Present and revised)

1 Dr. Harish Kr. Gulati, Professor and Head, LPM and PI NWP on Buffalo Improvement
2 Dr. Dipankar Kar, Principal Scientist LPM
3. Dr. B.L. Pander, Professor and Head, Animal Breeding & Genetics
4. Dr. S.K. Chhikara, Principal Scientist/Dairy Manager, Department of LPM
5. Dr. Vishal Sharma, Assistant Professor, I/C Animal Health Department of LPM
6 Dr.R.K.Malik, Principal Scientist, Department of VPB and Dr. S.S. Sahu, Assistant Professor, Department of LPM, I/C Animal Reproduction.

7. Herd performance

As stated below in table 9.1 to 9.21.

9.1 Herd Strength During the Period 4/2015 to 3/2016

Category		Addition			Disposal			
S. N.		**OB**	**B**	**T**	**D**	**T**	**S**	**CB**
Female								
1.	Calves 0 – 3 months	7	48		2	-47	1	5
2.	Calves >3 – 12 months	31		+47	1	-38	-	39
3.	Heifers 1 – 2 years	33		+38	-	-33	-	38
	> 2 years	54		+33	1	-27	5	54
4.	Buffaloes in Milk	68		+27	1	-10	9	75
5.	Buffaloes Dry P /NP	32		+10	-	-	9	33
	Sub Total	225	48	-	5		24	244
Male								
1.	Calves 0 – 3 months	2	48		1	-41	2	6
2.	Calves >3 – 12 months	20		+41	1	-3	20	37
3.	Male above							
	1 – 2 years	15		+3		-14	-	4
	> 2 years	3		+14		-4	4	9
4.	Breeding bulls	-		+4			4	-
5.	Bullocks	-					-	-
6.	Teasers	4					2	2
	Sub Total	44	48		2		32	58
	Grand Total	269	96		7		56	302

OB = Opening Balance D = Death S = Sale
B = Birth T = Transfer CB = Closing Balance P = Purchase

9.2 Calving Statistics During the Period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	3	3.13	2	2.08	-	-	-	-	-	-	1	1.04	5	5.20
May	5	5.20	4	4.17	-	-	-	-	-	-	-	-	9	9.38
June	4	4.20	1	1.04	-	-	-	-	-	-	-	-	5	5.20
July	2	2.08	4	4.17	-	-	-	-	-	-	-	-	6	6.25
August	3	3.12	7	7.29	-	-	-	-	-	-	-	-	10	10.42
September	8	8.33	9	9.38	-	-	-	-	-	-	-	-	17	17.17
October	10	10.42	6	6.25	-	-	-	-	-	-	1	1.04	6	16.66
November	5	5.20	2	2.08	-	-	-	-	-	-	-	-	7	7.29
December	2	2.08	8	8.33	-	-	-	-	-	-	-	-	10	10.42
January,16	5	5.20	4	4.17	-	-	-	-	-	-	-	-	9	9.38
February	1	1.04	1	1.04	-	-	-	-	-	-	-	-	2	2.08
March	0	0	0	0	-	-	-	-	-	-	-	-	0	0
Overall	48	50.00	48	50.00	-	-	-	-	-	-	2	2.08	96	100.00

Sex ratio Male : Female

9.3 Disposal of Animals During the Period 4/2015 to 3/2016

S. N.		Surplus	Rep. Problem	Weak & Old	Death	Experimental purpose	Total
Female							
1.	Calves 0 – 3 months	-	-	-	2	-	2
2.	Calves >3 – 12 months	1	-	-	1	-	2
3.	Heifers 1 – 2 years	-	-	-	1	-	1
	> 2 years	4	1	-	-	-	5
4.	Buffaloes in Milk	7	-	-	1	-	8
5.	Buffaloes Dry P /NP	7	3	1	-	-	11
	Sub Total	19	4	1	5	-	29

Male							
1.	Calves 0 – 3 months	-	-	-	1	-	1
2.	Calves >3 – 12 months	16	-	-	1	6	23
3.	Male 1 – 2 years > 2 years	- 4	- -	- -	- -	- -	- 4
4.	Breeding bulls	4	-	-	-	-	4
5.	Bullocks	-	-	-	-	-	-
6.	Teasers	2	-	-	-	-	2
	Sub Total	26	-	-	2	6	34
	Grand Total	45	4	1	7	6	63

9.4 Month-wise Mortality During the Period 4/2015 to 3/2016

Month		Female						Male					Over All Group
		0-3 month	3-6 month	6-12 month	1-2 years	Above 2 year	Total	0-3 month	3-6 month	6-12 month	Above 1 year	Total	
Over all	No	2	1	-	1	1	5	1	-	1-	-	2	7
	Died	-	-	-	-	-	-	-	-	-	-	-	-
	%	-	-	-	-	-	-	-	-	-	-	-	-

Calf mortality (0-3 months) was 2.86 percent (3/105).

9.5 Causes of Mortality (quarter-wise) During the Period 4/2015 to 3/2016

S. No.	Particulars	1st Quarter.	2nd. Quarter.	3rd. Quarter.	4th. Quarter.	Total
A	**Respiratory System**					
1	Pneumo-Enteritis	-	-	-	1	1
2	Broncho-Pneumonia	1	1	1	1	4
B	**Digestive System**	**-**	**-**	**-**	**-**	**-**
1	Enteritis	-	-	-	-	-
2	Septicemia & Toxemia	-	-	-	-	-
3	Peritonitis	-	-	-	-	-
4	Gastro-enteritis	1	-	-	1	2
5	Hepatitis	-	-	-	-	-
6	Haemo-enteritis	-	-	-	-	-
C	**Circulatory System**	**-**	**-**	**-**	**-**	**-**
D	**Others**	**-**	**-**	**-**	**-**	**-**
1	Miscellaneous.	-	-	-	-	-
Total		**2**	**1**	**1**	**3**	**7**

9.6 Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	No. of animals		Screening	No. of animals		No. of animals treated for Parasitism etc.
	Available	Inoculated		Tested	Results	
FMD	Whole herd (twice a year)	Whole herd (twice a year)	-	-	-	All calves up to the age of 1 year at regular interval.
HS	Whole herd (twice a year)	Whole herd (twice a year)	-	-	-	
BQ	-	-	-	-	-	
RP	-	-	-	-	-	
Brucellosis	-	-	Done	Herd	Nil	
TB			Done	Herd	Nil	
JD			Done	Herd	Nil	

9.7 Female conception rate during 4/2015 to 3/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Jan. 15	1	1	50	1	1	50	3	2	66.6	1	-	-	-	-	-	-	-	-	6	4	66.6	7	1	14.3	5	4	80	24	13	54.2
Feb.	1	-	-	1	-	-	1	1	100	-	-	-	-	-	-	-	-	-	9	3	33.3	-	-	-	4	3	75	16	7	43.8
March	-	-	-	1	1	50	-	-	-	-	-	-	1	-	-	-	-	-	11	4	36.4	8	3	37.5	1	1	100	22	9	40.9
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	3	2	66.6	5	2	40.0
May	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	5	-	-
June	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	2	1	50.0
July	5	3	60	1	-	-	4	1	25	-	-	-	-	-	-	1	1	100	2	-	-	2	-	-	1	1	100	16	6	37.5
Aug.	8	5	62.5	1	-	-	2	1	50	4	1	25	-	-	-	-	-	-	7	2	28.6	-	-	-	-	-	-	22	9	40.9
Sep.	3	1	33.3	4	1	25	2	-	-	4	0	-	2	-	-	-	-	-	15	4	26.6	8	2	25	4	1	25	42	9	21.4
Oct.	3	2	66.6	2	1	50	2	1	50	6	2	33.3	2	1	50	1	-	-	11	6	54.5	8	3	37.5	6	3	50	43	19	46.3
Nov.	4	2	50	1	0	-	1	1	100	3	3	100	2	2	100	1	-	-	13	7	53.8	7	6	85.7	6	2	33.3	38	23	60.5
Dec. 15	3	2	66.6	2	2	100	1	-	-	1	-	-	1	-	-	1	-	-	11	5	45.4	11	7	63.6	7	3	42.8	38	19	50.0
Total	30	16	53.3	16	6	37.5	16	7	43.8	19	6	31.6	8	3	37.5	5	1	20.0	87	35	40.2	51	22	43.13	39	21	53.8	271	117	43.2

I = No. of animals inseminated C = No. of animals conceived CR% = Conception rate%

9.8 Bull-wise Conception Rate During the Period 4/2015 to 3/2016

S.No.	Bull No.	Total No. of AIs.	Total Conceived	CR%
1	4363 (15 set)	26	8	30.8
2	1693E (15 set)	28	13	46.4
3	4354(15 set)	15	5	33.3
4	E2045(15 set)	34	16	47.0
5	2417(15 set)	31	14	45.2
6	4324(15 set)	9	4	44.4
7	4438(15 set)	28	9	32.1
8	4403(15 set)	27	8	29.6
9	2459(15 set)	20	12	60.0
10	2429(15 set)	29	13	44.8
11	6290(15 set)	14	10	71.4
12	6405(15 set)	8	3	37.5
13	4328(15 set)	2	2	100.0
	Total	**271**	**117**	**43.2**

9.9 Bull-wise Semen Stock During the Period 4/2015 to 3/2016

Bull No.	Set no.	Opening balance	Semen produced /Received	Consumption for AI/ Supplied	Balance
E1693	15th	41	40	63	18
E2045	15th	49	50	81	18
2417	15th	91	-	85	6
2459	15th	20	80	90	10
4324	15th	20	-	20	-
4354	15th	30	-	16	14
4363	15th	83	-	65	18
4438	15th	68	-	50	18
761	15th	-	20	20 (expt. Use)	-
4403	15th	-	120	80	40
2429	15th	10	80	80	10
6290	15th	-	40	40	-

9.10 Body Weights since Inception of Network Project.

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Adult (n)	Heifer (n)
Male & Female								
1994-95	34.0	62.8	97.1	150.7	203.2	262.5	470.03	-
1995-96	36.48	51.20	77.89	106.75	138.79	191.28	448.08	-
1996-97	35.26	53.7	90.5	118.65	146.59	206.49	423.18	-
1997-98	36.65	55.7	94.25	123.75	148.42	217.1	439.53	-
1998-99	36.87	55.94	94.4	112.31	149.94	217.1	439.53	-
1999-00	35.43	57.11	102.1	139.27	163.66	241.97	417.74	-
2000-01	39.49(71)	59.52(40)	104.76(37)	134.0(32)	164.69(31)	237.38(30)	494.59(27)	-
2001-02	37.6 (56)	5085(41)	84.69 (32)	167.9(27)	238.6 (35)	300.9(35)	470.1 (11)	-
2002-03	37.3 (87)	74.8 (88)	105.9 (77)	177.0(49)	259.6 (40)	-	457.4 (40)	-
2003-04	37.2 (87)	74.8 (88)	105.9 (77)	177.0(49)	259.6 (40)	345.1 (36)	457.4 (40)	-
2004-05	36.7 (85)	74.8 (85)	105.4 (75)	183.7(68)	260.6 (48)	341.0 (39)	459.2 (26)	-
2005-06	35.8 (81)	64.3 (53)	89.9 (23)	140.1(25)	190.6 (20)	295.6 (16)	463.8 (12)	-

2006-07	36.8 (87)	71.2 (73)	103.2 (61)	141.5(41)	181.9 (29)	262.5 (38)	467.4 (21)	-
2007-08	36.6 (85)	66.2 (78)	105.8 (63)	201.6(50)	249.0 (36)	302.7 (34)	463.2 (24)	-
2008-09	36.3 (65)	66.4 (37)	94.5 (43)	146.7(26)	184.2 (87)	246.6 (57)	459.4(267)	-
2009-10	36.6 (71)	70.8 (70)	105.0 (52)	154.4(43)	199.8 (49)	244.2 (38)	502.5 (24)	-
2010-11	35.8 (75)	72.3 (75)	108.0 (52)	166.4(62)	209.3 (50)	287.9 (46)	522.9 (33)	-
2011-12	35.0 (71)	68.5 (63)	101.6 (49)	175.6(40)	269.6 (46)	311.6 (34)	512.6 (23)	-
2012-13	36.4 (86)	68.2 (64)	105.1 (51)	189.2(38)	278.4 (46)	302.8 (31)	528.7 (39)	-
2013-14	36.1 (83)	76.2 (41)	122.7 (13)	185.5(43)	280.5 (30)	326 (19)	521.4 (32)	-
2014-15	37.2 (75)	63.8 (60)	84.9 (57)	174.5(25)	247.6 (26)	325.9 (25)	511 (17)	-
Female								
2015-16	35.2 (48)	54.4 (30)	91.0 (15)	188.5(15)	250.6 (15)	299.6 (15)	485.8 (27)	-
Male								
2015-16	36.4 (48)	54.4 (30)	93.7 (15)	191.0(15)	248.5 (15)	300.5 (15)	-	-

9.11 Production Performance During the Period 4/2015 to 3/2016

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	20	2501.2±133.7	304.9±15.7	2401.0±113.2	12.3
2nd	31	2744.8±99.87	312.7±8.43	2633.9±83.45	13.1
3rd	14	2654.3±132.0	276.2±11.98	2639.9±128.64	13.7
4th	6	2765.0±1957	322.2±30.84	2690.3±256.1	13.4
5th & above	7	2714.0±211.8	308.7±21.02	2603.0±173.27	13.1
Overall	78	2664.9±63.71	304.5±6.5	2576.8±56.90	13.0

Figures in parenthesis indicate number of observations

9.12 Production Performance since Inception of Network Project.

Year	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
1995-96	2033.0(70)	285.0(70)	1987.5(70)	10.8(70)
1996-97	1896.5(75)	269.4(75)	1880.8(75)	10.0(75)
1997-98	2150.3(83)	297.2(83)	2103.7(83)	10.9(83)
1998-99	1815.0(51)	302.6(51)	1964.7(51)	10.2(51)
1999-00	1798.1(64)	311.5(64)	1688.7(64)	10.0(64)
2000-01	2226.4(42)	305.0(42)	2183.1(42)	11.0(34)
2001-02	2205.4(50)	307.2(50)	2119.4(50)	11.0(50)
2002-03	2659.0(46)	329.7(46)	2522.3(46)	12.7(46)
2003-04	2115.5(75)	293.6(75)	2061.9(75)	11.5(75)
2004-05	2215.8(61)	311.13(61)	2134.4(61)	11.3(61)
2005-06	2346.9 (77)	307.8 (77)	2251.9 (77)	11.2 (89)
2006-07	2407.9 (75)	325.2 (75)	2261.4 (75)	11.4 (75)
2007-08	2199.2(80)	286.0(80)	2129.6(80)	11.2(80)
2008-09	2124.8(76)	295.1(76)	2040.6(76)	10.5(76)
2009-10	1885.5(84)	288.2(84)	1857.6(84)	9.97(84)
2010-11	2158.8(66)	309.7(66)	2041.8(66)	9.9(66)
2011-12	2544.4 (54)	332.4 (54)	2377.7(54)	11.1 (54)
2012-13	3010.3 (55)	319.3 (55)	2879.8 (55)	13.5 (55)
2013-14	2966.7 (65)	318.3(65)	2808.3(65)	13.3(65)
2014-15	2653.4 (62)	300.2 (62)	2584.4 (62)	12.9 (62)
2015-16	2664.9±63.71 (78)	304.5±6.5 (78)	2576.8±56.9 (78)	13.0±1.8 (78)

Figures in parenthesis indicate number of observations.

9.13 Average Milk Fat Component During the Period 4/2015 to 3/2016

Month	Animal in milk (N)	Av. Fat (%)	SNF	Protein	Lactose
April, 2015	70	7.5	-	-	-
May	76	7.6	-	-	-
June	74	7.7	-	-	-
July	63	7.6	-	-	-
August	65	7.5	-	-	-
September	73	7.5	-	-	-
October	84	7.5	-	-	-
November	81	7.3	-	-	-
December	86	7.2	-	-	-
January, 16	91	7.1	-	-	-
February	94	7.1	-	-	-
March	91	7.5	-	-	-
Overall	78	7.4	-	-	-

9.14 Reproduction Performance During the Period 4/2015 to 3/2016

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (Months)	41.7±1.28 (27)	-	-	-	-	41.7±1.28 (27)
Average Service Period (Days)	-	185±21.4 (15)	96±9.75 (19)	94.8±18.58 (13)	134.8±23.24 (11)	127.46±10.16 (58)
Average Dry Period (Days)	-	154.9±17.0 (15)	114.1±4.85 (19)	106.8±14.64 (13)	130.2±11.73 (11)	126.1±6.61 (58)
Average Calving Interval (Days)	-	491±21.54 (15)	404±9.4 (19)	136.9±19.2 (13)	452±26.3 (11)	434.2±10.48 (58)

9.14.1 Reproduction Performance since Inception of Network Project.

Year	AFC (DAYS\ months)	Average Service Period (days)	Average Dry Period (days)	Average Calving Interval (days)
1993-94	1570.2	107.5	-	-
1994-95	1560.6	163.1	132.7	459.5
1995-96	1575.8(26)	135.0(54)	161.0(36)	456.0(40)
1996-97	1438.2(44)	107.0(63)	109.7(31)	408.5(76)
1997-98	1480.4(28)	107.7(55)	143.1(55)	389.2(55)
1998-99	1439.5(22)	108.7(47)	156.0(38)	417.2(46)
1999-00	1502.0(15)	148.3(49)	148.6(49)	459.0(49)
2000-01	1540.0(17)	146.0(25)	137.0(25)	479.6(25)
2001-02	1400.1(14)	147.0(31)	128.0(31)	457.0(31)
2002-03	47.01 months (27)	165.3(47)	156.4(47)	472.1(47)
2003-04	40.4(40)	87.6(42)	115.9(42)	396.4(42)
2004-05	40.0(26)	95.8(52)	128.0(52)	402.2(52)
2005-06	41.0 (31)	147.8 (128)	156.2(26)	454.8(128)
2006-07	41.8 (15)	165.2 (60)	162.6 (64)	472.5(60)

2007-08	44.4 (30)	164.9(57)	147.1(57)	467.2(57)
2008-09	48.4 (54)	139.1(54)	146.0(54)	444.0(54)
2009-10	45.7 (27)	156.86(68)	163.6(68)	459.3(68)
2010-11	45.8(33)	155.38(38)	160.3(38)	461.8(38)
2011-12	46.0 (23)	154.0 (47)	147.8 (47)	462.8 (47)
2012-13	46 (39)	112.1 (36)	100.8 (36)	411 (36)
2013-14	43.6 (33)	118.0(39)	119.8 (39)	423 (39)
2014-15	45.9 (17)	116.8 (52)	135.6 (52)	425 (52)
2015-16	41.7±1.28 (27)	127.5±10.2 (58)	126.1±6.6 (58)	434.2±10.48 (58)

Figures in parenthesis indicate number of observations

9.15 Milk Production and Disposal During the Period 4/2015 to 3/2016

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	17542	15142	2400	-
May	17187	15171	2016	-
June	16331	14531	1800	-
July	16236	14460	1776	-
August	16943	14813	2130	-
September	17568	15388	2180	-
October	22255	19619	2636	-
November	22584	20028	2556	-
December	25407	22757	2650	-
January, 16	28260	25210	3050	-
February	27517	24747	2770	-
March	25187	22787	2400	-
Total	**253017**	**224653**	**28364**	

Note: Mention sale price of milk (range during the year) = Rs. 36/- to 37/-

9.16 Feed & Fodder (Qtls.) During the Period 4/2015 to 3/2016

Month	Type of fodder/feed	Qty. produced at Farm (qtl.)	Qty. Purchased	Actually fed	Balance
April, 15	Green		-	1053.0	-
	Dry	250.0	-	250.0	-
	Silage	-	-	-	-
	Concentrate	224.0	-	224.0	-
May	Green	1008.0	-	1008.0	-
	Dry	296.0	-	296.0	-
	Silage	-	-	-	-
	Concentrate	309.60	-	309.60	-
June	Green	1880.60	-	1880.60	-
	Dry	244.0	-	244.0	-
	Silage	-	-	-	-
	Concentrate	240.0	-	240.0	-
July	Green	2285.0	-	2285.0	-
	Dry	277.0	-	277.0	-
	Silage	-	-	-	-
	Concentrate	310.1	-	310.1	-
August	Green	1522.0	-	1522.0	-
	Dry	248.0	-	248.0	-
	Silage	-	-	-	-
	Concentrate	296.50	-	296.50	-

September	Green	1038.0	-	1038.0	-
	Dry	270.0	-	270.0	-
	Silage	-	-	-	-
	Concentrate	411.2	-	411.2	-
October	Green	1652.45	-	1652.45	-
	Dry	279.0	-	279.0	-
	Silage	-	-	-	-
	Concentrate	383.34.200	-	383.34.200	-
November	Green	2103.35	-	2103.35	-
	Dry	210.0	-	210.0	-
	Silage	-	-	-	-
	Concentrate	367.0	-	367.0	-
December	Green	1991.70	-	1991.70	-
	Dry	252.0	-	252.0	-
	Silage	-	-	-	-
	Concentrate	342.65	-	342.65	-
January 16	Green	2273.87	-	2273.87	-
	Dry	242.0	-	242.0	-
	Silage	-	-	-	-
	Concentrate	325.29	-	325.29	-
February	Green	1860.0	-	1860.0	-
	Dry	257	-	257	-
	Silage	-	-	-	-
	Concentrate	370.44	-	370.44	-
March	Green	1779.0	-	1779.0	-
	Dry	277.0	-	277.0	-
	Silage	-	-	-	-
	Concentrate	433.94	-	123.94	310.0
Total	Green	20546.97	-	20546.97	-
	Dry	3102.0	-	3102.0	-
	Silage		-	-	-
	Concentrate	4013.56	-	3703.56	310.0

9.17 Milking Performance During the Period 4/2015 to 3/2016

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	68	34	102	67	8.8	5.9
May	71	33	104	68	8.2	5.5
June	67	38	105	64	8.2	5.3
July	56	50	106	53	9.6	5.1
August	56	55	111	50	10.3	5.2
September	62	54	116	53	10.0	5.4
October	74	46	120	62	10.1	6.3
November	75	48	123	61	10.6	6.5
December	80	45	125	64	10.6	6.8
January, 16	87	39	126	69	10.3	7.0
February	91	35	126	72	11.0	7.9
March	81	27	108	75	10.7	8.0
Overall	72	42	114	63	9.9	6.2

9.17.1 Milking Performance since Inception of Network Project.

Month	No. of animals (in milk)	No. of animals (Dry)	Total animals	Animals in milk (%)	Wet Average (kg)	Herd Average (kg)
1993-94	42	43	85	49.0	6.3	3.8
1994-95	49	39	88	55.7	7.2	3.4
1995-96	53	39	92	57.1	7.3	4.0
1996-97	76	46	122	62.4	7.0	4.3
1997-98	68	36	104	65.4	6.5	3.7
1998-99	71	27	98	70.0	6.2	4.2
1999-00	60	23	83	72.5	5.2	3.8
2000-01	55	17	72	75.8	6.7	5.1
2001-02	48	22	70	68.6	7.5	5.2
2002-03	47	25	72	65.3	7.5	5.0
2003-04	68	29	97	70.0	7.3	5.1
2004-05	68	36	104	65.4	7.7	5.0
2005-06	63	32	95	66.5	7.7	5.2
2006-07	65	31	96	68.0	7.8	5.3
2207-08	66	34	100	66.0	7.6	5.1
2008-09	62	33	95	66.0	7.1	4.7
2009-10	69	41	110	62.7	6.8	4.3
2010-11	64	30	94	68.1	7.3	5.0
2011-12	58	24	82	71.55	8.5	6.1
2012-13	58	30	88	65.1	10.0	6.6
2013-14	61.0	35.0	96.5	64.1	9.4	6.0
2014-15	64	36	100	64.3	8.7	5.6
2015-16	72	42	114	63	9.9	6.2

9.18 Bull-wise Daughters Performance (1st lactation) During the Period 4/2015 to 3/16

Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lactation
Khurana	-	3	2
R-11	-	-	1
12	-	-	3
183	-	5	-
220	-	-	1
328	-	3	-
1153	-	-	1
1693	7	-	-
1796	-	3	-
1933	-	-	1
1994	1	-	-
2045	13	-	1
2176	-	2	2
2177	-	-	2
2185	-	1	1
2371	2	-	-
2412	4	-	-
2429	2	-	-
2459	1	-	-
3255	-	-	1
3267	-	1	-
3591	-	-	1

3598	-	2	1
4328	1	-	-
4354	4	-	-
4363	2	-	-
4438	1	-	-
4506	-	1	1
4915	-	3	1
5604	-	1	-
5710	-	1	-
6007	1	-	-
6066	1	-	-
6136	2	-	-
6139	3	-	-
6405	3	-	-
70577	-	1	-
	48	**27**	**20**

9.19 Bull-wise Daughters Completing 1st Lactation During the Period 4/2015 to 3/16

Bull No.	Daughter No.	Date of birth	Date of calving	First lact. 305 day or less milk yield(kg)	Total yield/ L.L	Remarks
1153	767	7.4.10	9.4.14	2661	3328/446	
12	769	19.4.10	15.4.14	2843	3411/410	
2045	685	30.6.09	15.5.14	2599	3102/410	
12	804	4.10.10	24.5.14	2635	2636/339	
R-11	857	24.7.11	29.7.14	2134	2134/277	
3255	718	15.2.10	30.8.14	2710	2864/353	
12	770	23.4.10	10.9.14	2256	2256/280	
3591	705	10.10.09	14.9.14	2308	2308/290	
4506	797	8.9.10	23.9.14	3454	3454/298	
Khurana	875	20.9.11	7.11.14	1724	1724/289	
2177	851	2.7.11	23.11.14	2662	2716/337	
3598	835	12.4.11	25.11.14	2272	2295/310	
2177	864	22.8.11	8.12.14	2443	2479/320	
220	838	25.4.11	5.2.15	2635	2635/261	
2176	932	10.8.12	28.4.15	2577	2577/283	
Khurana	880	29.9.11	17.5.15	2445	2445/302	
4915	899	15.2.12	21.6.15	2544	2544/266	
2176	881	3.10.11	6.7.15	1532	1532/242	
2185	884	20.11.11	24.11.15	979	979/100	
1933	697	15.9.09	9.9.14	2606	2606/285	

9.20 List of Pre-Selected Breeding/Young Bulls as on 31.03.2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best lact.305 or days less yield (kg)	Semen doses available	Remarks
1	1027	28.9.13	603	PC461	3763	3776/309	
2	1053	17.12.13	683	29M45	3559	3559/300	
3	1064	19.2.14	613	B1-330	3579	3723/336	

9.21 Targets Achieved During the Year 2015-16

Sr. No.	Trait	Target Fixed	Achieved (2015-16)
1	Av. Age at first Ist. Service (months)	24.0 months	29.6 months
2	Av. Age at first Ist. Calving (months)	40.0 months	41.7 months <40.0 months (16)
3	Av. Age for initiating training of bulls (months)	-	-
4	Av. Age at first Ist. Collection	-	-
5	Av. Service Period.	130 days	127.5 days
6	Calf Mortality (0-3 months)	≤ 5%	2.8 %
7	Wet Average (kg)	≥ 8.5 kg	9.9 Kg
8	Herd Average (kg)	≥ 5.5 kg	6.2 Kg

10. **Salient Research Achievements**: The Buffalo Research Centre envisages quantification of management practices for livestock since 1983, which also envision evaluation of Murrah breed buffaloes and proven sires started from the year 1993. The center has been making steady progress in meeting out the objectives of the Network Project which are reflected in the Animal Progress Report.

11. **Expected socio-economic impact in the tract**: Breeding bulls will be sold to Panchayats in the field/villages for improvement of Murrah Buffaloes.

12 **Focus of work in the coming year:**

- To increase the elite number of buffaloes in the herd
- To carryout the envisaged technical programme of the project for fulfillment of the laid down objectives.
- To establish a high yielding herd of murrah buffaloes**.**

13 **Constraints:** No constraints faced during the period

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E 2015-16		Released ICAR Share as per R E	Expenditure as per AUC		Balance
Total	ICAR Share		ICAR Share	State Share	
62.80	47.10	47.10	46.52272	15.50757	0.71753

Herd Performance

Herd strength at the centre was 302 heads with 162 breedable buffaloes (>2 year). 96 calves were added due to birth. During the period of report calf mortality (0-3 months) was 2.86 % (3/105), conception rate was 43.20% both of these parameters showed improvement.

Average lactation yield, lactation length, 305 or less day milk yield were 2665 kg (n=78), 305 days (n=78) and 2577 kg (n=78). The performance is similar to the last year. The reproduction parameters viz Age at first calving, Service Period, Dry Period and Calving Interval were 41.7±1.28 (n=27) months, 127.46±10.16 (n=58) days, 126.1±6.61 (n=58) days and 434.2±10.48 (n=58) days respectively. Wet and herd averages were 9.9 kg and 6.2 kg respectively showed marked improvement over previous year.

Targets achieved during 2015-16

S. N	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	29.6	27.8
2.	Av. Age at first calving	40 months	41.7	45.9
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	--	--
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	--	--
5.	Av. Service period	130 days	127.5	116.8
6.	Calf mortality (0-3 months)	≤ 5%	2.86%	8.23 %
7.	Wet average	≥ 8.5 kg	9.9 kg.	8.7 kg
8.	Herd average	≥ 5.5 kg	6.2 kg.	5.6 kg

Recommendations:

- Performance of the herd is very good need to be maintained. AFC of the herd improved over the last year.
- Elite males (>3000 kg or >2500 kg 1st lactation) not to be sold to private breeders but only to semen station.
- Production performance however, is lower than 2012-13 and 2013-14 for which reasons need to be explored for improvement.

LIVESTOCK RESEARCH STATION, MAMNOOR

1. **Name of center**: Sri P.V. Narsimha Rao Telangana State University For Veterinary, Animal & Fishery Sciences Livestock Research Station, Mamnoor – 506 166
2. **Project Code** : 18-3/97, ASR – II Dated 29.3.2001
3. **Project Title** : Network Project on Buffalo Improvement
4. **Date of Start** : 1.4.2012
5. **Objectives** : To envisage and undertake progeny testing for improvement of Murrah breed of Buffaloes.

6. **Technical Programme**: Performance recording farm & field PT

7. **Financial Statement** : **Receipts** **: Rs. 5,02,511/-**

Item of Expenditure	Budget Provision for 2015-16	ICAR Share of Expenditure 01-04-15 to 31-03-16	Total Expenditure
1	2	3	4
1. Pay of Estt.	20,00,000	12,37,795	16,50,393
2. T.A.	1,00,000	66,889	89,185
3. Recurring Contingencies	36,00,000	26,999,71	35,99,961
4. Non- Recurring Contingencies	8,00,000	6,00,000	8,00,000
Total :	**65,00,000**	**46,04,655**	**61,39,539**

8. Staff and Infrastructure Buildup during the year :

SNo	Category / Designation	No. of Posts Sanctioned	No. of Posts Filled	No. of Posts Vacant
SCIENTIFIC				
1	Associate Professor	1	1	-
2	Assistant Research Scientist	1	-	1
TECHNICAL				
3	Technical Assistant (Lab)	1	1	-

9. Herd Performance:

9.1. Herd strength during the period 4/2014 to 3/2015

SN	Category	Addition			Disposal			
		OB	**B/P**	**T**	**D**	**T**	**S**	**CB**
Female								
1.	Calves 0 - 3 months	**-**	17+4*	-	-	11	-	**10**
2.	Calves > 3-12 months	**19**	-	27	-	35	-	**11**
3.	Heifers 1-2 Years	**4**	-	19	1	4	-	**18**
	Heifers > 2 Years	**10**	-	8	-	8	-	**10**
4.	Buffaloes in Milk	**36**	20*	12	-	25	-	**43**
5.	Buffaloes Dry P/NP	**14**	-	25	2	8	4	**25**
	Sub Total	**83**	**41**	**91**	**3**	**91**	**4**	**117**
Male								
1.	Calves 0 – 3 months	**4**	13+16*	-	-	16	-	**17**
2.	Calves >3 – 12 months	**11**	-	35	-	34	-	**12**
3.	Male above							
	1 – 2 years	**7**	-	15	1	7	-	**14**
	> 2 years	**3**	-	7	-	-	-	**10**
4.	Breeding bulls	**-**	-	-	-	-	-	**-**
5.	Bullocks	**-**	-	-	-	-	-	**-**
6.	Teasers	**2**	-	-	-	-	-	**2**
	Sub Total	**27**	**29**	**57**	1	**57**	**-**	**55**
	Grand Total	**110**	**70**	**148**	**2**	**148**	**4**	**172**

OB = Opening Balance D = Deaths S = Sale
B/P = Births/Purchase T = Transfer CB = Closing Balance

9.2. Calving statistics during the period 4/2015 to 3/2016

Month	Male No.	%	Female No.	%	Dystokia No.	%	Prolepses No.	%	Still Birth No.	%	Abortion No.	%	Overall No.	%
April, 15	3	43.0	4	57.0					-				**7**	**23.0**
May	1	100.0	-	-					-				**1**	**3.0**
June	-	-	-	-					-				-	-
July	1	50.0	1	50.0					-				**2**	**6.5**
August	5	71.5	1	14.5					1	**14.0**			**7**	**23.0**
September	1	33.0	2	67.0					-				**3**	**10.0**
October	1	50.0	1	50.0					-				**2**	**6.5**
November	-	-	1	100.0					-				**1**	**3.0**
December	-	-	1	100.0					-				**1**	**3.0**
January,16	-	-	3	100.0					-				**3**	**10.0**
February	1	25.0	3	75.0					-				**4**	**13.0**
March		-		-					-				-	-
Overall	**13**	**42.0**	**17**	**55.0**					**1**	**3.0**			**31**	**100.0**

Sex ratio= Male: Female = 1:1.5

9. 3. Disposal of animals during the period 4/2014 to 3/2015

Sr. No.	Category	Surplus	Rep. Problem	Weal & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months						
2.	Calves >3 – 12 months						
3.	Heifers 1 – 2 years > 2 years				1		1
4.	Buffaloes in Milk						
5.	Buffaloes Dry P /NP			4	2		6
	Sub Total			4	3		7
	Male						
1.	Calves 0 – 3 months						
2.	Calves >3 – 12 months						
3.	Male 1 – 2 years > 2 years				1		1
4.	Breeding bulls						
5.	Bullocks						
6.	Teasers						
	Sub Total				1		1
	Grand Total			4	4		8

9.4. Month-wise mortality during the period 4/2015 to 3/2016

Female								Male					
Month		**0-3 (m)**	**3-6 (m)**	**6-12 (m)**	**1-2 yrs**	**> 2 yrs**	**Over all Female**	**0-3 (m)**	**3-6 (m)**	**6-12 (m)**	**> 1 yr**	**Over All Male**	**Over All Herd**
Overall	No.	21	19	27	23	84	124	33	20	26	22	56	180
	Died	-	-	-	1	2	3	-	-	-	1	1	4
	%	-	-	-	4.34	2.38	2.41	-	-	-	4.54	1.78	2.22

There was no calf mortality (0-3 m)

9.5. Causes of mortality (quarter-wise) during the period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System:				
1. Pneumo-Enteritis	-	-	-	-
2. Broncho-Pheumonia	-	-	-	2
B. Digestive System: -				
1. Impaction of Rumen	-	-	1	-
2. Gastritis	-	-	-	-
C. Circulatory System:	-	-	-	-
D. Others:-				
1. Chronic debility	-	-	-	1
2. Miscellaneous	-	-	-	-
Total	**-**	**-**	**1**	**3**

9.6. Prophylactic measures taken during the period 4/2015 to 3/2016

Vaccination	No. of animals Available	Inoculated	Screening	No. of animals Tested	Results	No. of animals treated for Parasitism etc.
FMD	160	160	Brucellosis	80	-ve	All buffaloes were protected from parasitic infestation by periodical deworming
HS	140	140	-			
BQ	-	-	-			
RP	-	-	-			
Brucellosis	-	-	-	80	-Ve	
TB	-	-	-			
JD	-	-	-			

9.7. Female conception rate during the period 2015 – 16

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Jan. 15																			4	1	25							4	1	25
Feb.																			5	1	20							5	1	20
March																			3	3	100							3	3	100
April																			4	4	100							4	4	100
May																			1	-	-							1	-	-
June	2	-	-																3	-	-							5	-	-
July																			2	-	-							2	-	-
Aug.																			5	3	60	1	1	100				6	4	67
Sep.	2	2	100																4	1	25	1	-	-				7	3	43
Oct.	2	2	100																6	3	50	1	-	-				9	5	56
Nov.	1	1	100																4	3	75							5	4	80
Dec. 15																			2	2	100							2	2	100
Total	7	5	71																43	21	47	3	1	33				53	27	51

I = No. of animals inseminated C = No. of animals conceived CR% = Conception Rate %

9.8. Bull-wise conception rate during the period 4/2015 to 3/2016

S. No.	**Bull No.**	**Total No. of AI**	**Total Conceived**	**CR %**
1	MB851	12	10	83.3
2	4324	2	-	0.0
3	4438	3	1	33.3
4	4363	6	4	66.6
5	4354	2	-	0.0
6	4328	3	1	33.3
7	2417	5	3	60.0
8	4403	3	1	33.3
9	2338	1	1	100.0
10	2371	1	-	0.0
11	4403	3	2	33.3
12	2429	2	-	0.0
13	2371	2	1	50.0
14	6007	3	2	66.6
15	2059	2	1	50.0
Total		**50**	**27**	**54.0**

9.9. Bull-wise semen stock 4/2015 to 3/2016

S. No.	**Bull No.**	**Set No**	**Opening** Balance	**Semen Produced/ Received**	**Consumption for AI/Supplied**					**Bal-ance**
					Dairy farm supply	**Field Unit**	**Other agencies**	**Sold**	**Disc.**	
1	MB 851	14	110	-	12	-	78		20	-
2	4324	15	30	-	2	-				**28**
3	4328	15	30	-	3	-				**27**
4	4354	15	30	-	6	-				**24**
5	4363	15	30	-	2	-				**28**
6	4403	15	30	-	3	-				**27**
7	4438	15	30	-	5	-				**25**
8	M2371	15	30	-	3	-				**27**
9	M2412	15	30	-	1	-				**29**
10	M2417	15	30	-	1	-				**29**
11	M2429	15	30	-	3	-				**27**
12	M2459	15	30	-	2	-				**28**
13	6007	15	30	-	2	-				**28**
14	6139	15	30	-	3	-				**27**
15	6290	15	30	-	2	-				**28**
16	6405	15	30	-	-	-				**30**
17	1693	10	30	-	-	-	18			**12**
18	2990	10	30	-	-	-	24			**6**
Total			620	-	50	-	120	-	20	**430**

9.10 Body weights since inception of Network:

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Heifer (n)	Adult (n)
Females								
2014-15	30.00 ± 0.39	47.85 ± 1.92	69.36 ± 2.29	142.75 ± 4.25	230.25 ± 19.72	310.75 ± 20.20	-	482.28 ± 10.99
2015-16	30.57 ± 0.39 (21)	54.09 ± 0.44 (11)	86.50 ± 0.67 (16)	167.79 ± 1.38 (19)	251.43 ± 1.02 (7)	338.50 ± 0.96 (4)	301.40 ± 11.40 (10)	507.29 ± 4.55 (68)
Males								
2014-15	30.85 ± 0.46	45.00 ± 1.62	65.10 ± 2.17	137.14 ± 4.26	198.75 ± 5.19	320.00 ± 27.30		343.00 ± 23.77
2015-16	30.64 ± 0.30 (33)	54.00 ± 0.85 (16)	83.58 ± 0.70 (19)	175.27 ± 1.30 (15)	250.86 ± 3.09 (7)	264.00 ± 2.40 (7)		369.80 ± 27.09 (5)

9.11 Production performance of buffaloes completing their lactation during the period 4/2015 to 3/2016

Lactation No.	No. of obs.	Av. Lact. Yield (kgs)	Av. Lact. Length (days)	305-day Milk Yield (kgs)	Av. Peak yield (kg)
1st	4	1548.30 ± 118.70	305.80 ± 13.70	1531.50 ± 113.70	5.90 ± 0.20
2nd	9	1467.56 ± 77.06	307.00 ± 2.79	1465.44 ± 75.90	6.06 ± 0.26
3rd	8	1888.90 ± 170.00	317.00 ± 14.40	1848.50 ± 134.50	7.40 ± 0.30
4th	15	1888.30 ± 74.50	323.10 ± 13.20	1836.70 ± 76.90	7.10 ± 0.20
5th & Above	8	1765.30 ± 75.30	302.10 ± 12.80	1780.80 ± 44.60	6.60 ± 0.40
Over All	**44**	**1878.10 ± 36.10**	**323.40 ± 4.80**	**1842.90 ± 31.00**	**7.00 ± 0.10**

9.12 Production performance of buffaloes (General herd) since inception of Network:

Years	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
2011-12	1564 (6)	273 (6)	1564 (6)	11.50 (6)
2012-13	1560 (5)	285 (5)	1560 (5)	9.50 (5)
2013-14	1753 (13)	272 (13)	1963 (13)	7.41 (13)
2014-15	1681.2± 106.4 (11)	302.6± 12.5 (11)	1626.5± 91.4 (11)	7.4± 0.17 (11)
2015-16	1878.1± 36.1 (44)	323.4± 4.8 (44)	1842.9± 31.0 (44)	7.0± 0.1 (44)

9.13. Average milk components during the period (month-wise) 4/2015 to 3/2016

Month	Animal in milk (N)	Av. Fat (%)	SNF	Protein	Lactose
April, 2015	42	7.4			
May	39	7.6			
June	34	8.0			
July	28	8.0			
August	30	8.0			
September	28	8.2			
October	25	8.4			
November	22	8.8			
December	22	8.4			
January, 16	24	8.2			
February	43	7.6			
March	43	7.4			
Overall	**380**	**8.00 ± 0.13**			

9.14. Reproduction performance of Buffaloes calving during the period 4/2015 to 3/2016

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (m)	54.00 ± 1.19 (4)	-	-	-	-	**54.00 ± 1.19 (4)**
Average Service Period (d)	-	83.71 ± 9.16 (7)	330.00 - (1)	204.00 - (3)	139.69 ± 18.19 (16)	**128.00 ± 14.64 (27)**
Average Dry Period (d)	-	132.29 ± 22.88 (7)	303.00 - (1)	210.33 - (3)	123.69 ± 17.41 (16)	**130.00 ± 13.08 (27)**
Average Calving Interval (d)	-	391.43 ± 12.52 (7)	638.00 - (1)	530.33 - (1)	433.31 ± 20.79 (16)	**426.00 ± 15.54 (27)**

9.14.1. Reproduction performance of buffaloes calving since inception of Network:

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
2009-10	-	-	-	-
2010-11	-	-	-	-
2011-12	-	153	-	-
2012-13	-	172	188	464
2013-14	-	143.21 ± 10.94 (14)	147.35 ± 11.85 (14)	397.71 ± 4.72 (14)
2014-15	-	141.29 ± 16.91 (34)	198.06 ± 20.01 (34)	462.00 ± 21.36 (34)
2015-16	54.00 ± 1.19 (4)	128.00 ± 14.64 (27)	130.00 ± 13.08 (27)	426.00 ± 15.54 (27)

9.15. Month-wise milk production and disposal during the period 4/2015 to 3/2016

Month	**Production**	**Disposal**			
	Total milk produced (kg)	**Liquid milk (kg)**	**Calf feeding(kg)**	**Experimental purposes (kg)**	**Milk lost in handling (kg)**
April, 2015	5853	4313	1540		
May	4953	4212	741		
June	4822	4010	812		
July	4201	3970	231		
August	4482	3963	519		
September	5250	4204	1047		
October	5431	4155	1277		
November	4202	3073	1129		
December	3652	2958	694		
January, 2016	3378	2903	476		
February	7922	5850	2072		
March	12596	9203	3393		
Total	**66742**	**52813**	**13929**		

Note: Mention sale price of milk (range during the year)

9.16. Feed and fodder purchased and offered (qtls) for animals during 4/2015 to 3/2016

Month	Type of fodder/feed	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
April, 15	Green	**500**	**0**	**500**	**0**
	Dry	**187.5**	**220**	**170**	
	Silage	**400**	**0**	**400**	**0**
	Concentrate	**35**	**100**	**66**	**69**
May	Green	**520**	**0**	**520**	**0**
	Dry		**300**	**175**	
	Silage	**400**	**0**	**400**	**0**
	Concentrate	**5**	**100**	**116.25**	**57.75**
June	Green	**500**	**0**	**500**	**0**
	Dry			**159.5**	**203**
	Silage	**100**	**0**	**100**	**0**
	Concentrate		**200**	**105**	**152.75**
July	Green	**1050**	**0**	**1050**	**0**
	Dry		**350**	**220**	**333**
	Silage				
	Concentrate			**100.75**	**52**
August	Green	**1100**	**0**	**1100**	**0**
	Dry		**280**	**230**	**383**
	Silage				
	Concentrate		**100**	**100.75**	**51.25**
September	Green	**1070**	**0**	**1070**	**0**
	Dry		**250**	**231.5**	**401.5**
	Silage				
	Concentrate	**55**		**97.5**	**8.75**
October	Green	**1050**	**0**	**1050**	**0**
	Dry			**200**	**201.5**
	Silage				
	Concentrate		**100**	**100.75**	**8**

November	Green	**1100**	**0**	**1100**	**0**
	Dry			**170**	**31.5**
	Silage				
	Concentrate		**100**	**97.5**	**10.5**
December	Green	**950**	**0**	**950**	**0**
	Dry	**50**		**81.5**	**0**
	Silage				
	Concentrate		**100**	**105**	**5.5**
January 16	Green	**850**	**0**	**850**	**0**
	Dry				
	Silage				
	Concentrate		**200**	**107**	**98.5**
February	Green	**850**	**0**	**850**	**0**
	Dry				
	Silage				
	Concentrate		**100**	**105**	**93.5**
March	Green	**750**	**0**	**750**	**0**
	Dry				
	Silage	**120**	**0**	**120**	**0**
	Concentrate		**200**	**108.5**	**185**
Total	Green	**10290**	**0**	**10290**	**0**
	Dry	**187.5**	**1400**	**1587.5**	**0**
	Silage	**1020**	**0**	**1020**	**0**
	Concentrate	**35**	**1300**	**1150**	**185**

(Difference B/w produced and fed is handling loss)

9.17. Milking performance during the period 4/2015 to 3/2016

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 2015	42	8	50	84	4.65	3.90
May	39	11	50	78	4.10	3.20
June	34	16	50	68	4.73	3.21
July	28	22	50	56	4.84	2.71
August	30	21	51	59	4.82	2.83
September	28	24	52	54	6.25	3.37
October	25	28	53	47	7.01	3.31
November	22	31	53	42	6.37	2.64
December	22	29	51	43	5.35	2.31
January, 2016	24	26	50	48	4.54	2.18
February	43	26	69	62	6.58	4.10
March	43	25	69	62	10.46	6.52
Overall	**32.00**	**22.00**	**54.00**	**59.00**	**5.81**	**3.36**

9.17.1. Milking performance since inception:

Years	No. of Animals in milk	No. of Animals dry	Total Animals	% in Milk	Wet average(kg)	Herd average (kg)
2011-12	6	-	6	100	5.19	5.19
2012-13	17	14	31	55	4.70	2.80
2013-14	11	20	31	40	5.25	2.13
2014-15	22	16	50	55	5.90	3.36
2015-16	32	22	54	59	5.81	3.36

9.18. Bull-wise Daughters Born/Daughters reaching A. F. C. and completing 1st Lactation records During the Period 4/2015 to 3/2016

-NIL-

9.19. Bull-wise daughters completing 1st lactation during the Period 4/2015 to 3/2016

-NIL-

9.20 List of breeding/young bulls as on 3/2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's 305 or less days yield (kg)	Semen doses available	Remarks
1	605	03-03-2011	444	3472	2050	-	
2	606	04-03-2011	450	3472	2060	-	
3	613	24-10-2012	559	3098	1224	-	
4	614	08-11-2012	567	3294	1144	-	
5	615	01-02-2013	565	3206	1200	-	
6	616	25-07-2013	547	3294	1655	-	
7	618	14-08-2013	442	3462	2020	-	
8	622	14-09-2013	9772	3206	1600	-	
9	623	29-09-2013	454	3098	2170	-	
10	624	16-10-2013	539	3462	1324	-	
11	625	17-10-2013	458	3294	1910	-	
12	626	01-11-2013	9775	3206	1559	-	
13	635	25-07-2014	551	4093	2184	-	
14	636	27-07-2014	9773	MB858	2174	-	
15	638	14-08-2014	9772	4093	1697	-	
16	639	16-08-2014	V905	-	-	-	
17	645	02-09-2014	9775	2306	1559	-	
18	646	25-09-2014	539	MB851	1729	-	
19	649	01-11-2014	V241	-	1755	-	
20	650	01-11-2014	V666	-	1836	-	
21	655	05-11-2014	V845	-	1682	-	
22	656	08-11-2014	V851	-	1232	-	
23	657	01-01-2015	541	MB851	1541	-	
24	659	08-01-2015	V236	-	1838	-	
25	664	19-01-2015	444	4100	2050	-	

9.21 Target achieved during the year 4/2015 to 3/2016

S. No.	Trait	Target	Achieved
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	42
2.	Av. Age at first calving	40 months	54
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	-
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	-
5.	Av. Service period	130 days	128 days
6.	Calf mortality (0-3 months)	≤ 5%	Nil
7.	Wet average	≥ 8.5 kg	5.81 kg
8.	Herd average	≥ 5.5 kg	3.36 kg

10. Salient Research Achievements including survey reports/farmers animals covered in the project:

11. a. Publications : Two
Popular articles/Pamphlets published in vernacular language : Four

b. **All India Radio Programme**: Farmer School on Reproductive management and Scientific management of buffaloes.

c. Kisan Mela: --

d. **TV Live Phone in Programmes**: Delivered Topics on Buffalo management and other livestock management **in ETV & T News** etc for betterment of Farmers.

e. Participation in TV Live Phone-in Programmes on dated 5.6.2015 & 25-3-2016

12. Expected Socio-economic impact in the tract :

1. Supply of germ plasm, fodder slips etc:
2. Training programmes conducted : 2
3. Guest Lectures delivered : 6
4. Details of PG / Ph.D Research conducted at LRS, Mamnoor : 5
5. Referee for journals: 3
6. Papers Presented in Conferences /Seminars /Symposia at National and International: 1

13. Constraints if any :
Additional posts of (1 No.) Veterinary Assistant and (1 No.) Junior Assistant is to be sanctioned for smooth and effective implementation of the PT programme.

14. Focus of work in the coming year:

1. Performance recording of animals of NPBI.
2. Purchase of elite animals to maintain wet and herd averages of the centre.
3. Selection and training of breeding bulls for field PT programme.
4. Conducting farmer trainings, Animal health camps and Calf rallies to encourage the farmers under PT programme.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Opening balance	Expenditure as per AUC		Receipts (ICAR Share)	Closing Balance
Total	ICAR Share			ICAR Share	State Share		
65.00	48.75	48.75	-3.06214	46.04654	15.34885	5.02511	+4.66643

Herd Performance : Herd strength at the centre was 172 animals out of which 78 were breedable animals (>2 years) with impressive improvement from last year (110 and 60). 31 calves born at the centre and calf mortality (0 – 3 months) were reported nil except one still birth. A total 50 AI's were performed and 27 conceived with a good conception rate of 54.00 %. 305 days or less day milk yield was 1843 kg (n=44), Av. Lactation length was 323 days (n=44), the milk production is improving at the centre. Wet & herd average were reported as 5.81 & 3.36 kg. 59 % of the animals (32/54) were in milk during the period. Reproductive performance viz. average service period, average dry period and average calving interval for 27 animals were 128 days, 130 days and 426 days respectively.

Target achieved during the year 4/2015 to 3/2016:

S. N.	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	42.00	
2.	Av. Age at first calving	40 months	54.00	
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	-	
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	-	
5.	Av. Service period	130 days	128 days	141
6.	Calf mortality (0-3 months)	≤ 5%	Nil	--
7.	Wet average	≥ 8.5 kg	5.81 kg	5.90 kg
8.	Herd average	≥ 5.5 kg	3.36 kg	3.36 kg

Recommendations: Overall, centre has shown good improvement all-around. 20 buffaloes with 20 followers were purchased.Surpluse breeding bulls listed in table no 9.20 need to be disposed off to the developmental agencies/farmers/village panchayat. The centre should concentrate at the farm activity so that elite buffaloes may be reared for bull production. Surplus male calves be disposed off immediately.

ICAR RESEARCH COMPLEX FOR EASTERN REGION, PATNA (BIHAR)

1. Name of centre : ICAR Research Complex Eastern Region Patna
2. Project Code
3. Project Title : Network Project on Murrah Buffaloes
4. Date of Start : July 2014 (Re-inducted)
5. Objective : Specified NWP(BI)
6. Technical Programm : As per the Technical programme of Murrah breed of NWPBI.
7. Financial Statement : Self-financed.
8. Staff Position : Redeployment; PI of the project - Dr PC Chandran, Scientist, Co-PIs - Dr Amitava Dey, Dr. Pankaj Kumar, Dr. Reena Kumari Kamal,

9. Herd Performance : Tables 9.1 to 9.21

9.1 Herd Strength during the Period 4/2015 to 3/2016

Category		Addition			Disposal			
Sr. No.		OB	B	T	D	T	S	CB
Female								
1.	Female Calves below 3 months	0	3	7	0	0	0	1
2.	Female Calves 3-12 months	13	0	0	1	0	0	9
3.	Heifers above 1-2 years Above 2 years	 1 2	0	0	0	0	0	 0 12
4.	Buffaloes in Milk	13	0	10	0	0	0	20
5.	Buffaloes Dry P /NP	5	0	0	0	0	0	11
	Sub Total	34	3	17	1	0	0	53
Male								
1.	Male Calves below 3 months	2	5	1	1	0	0	1
2.	Male Calves 3-12 months	1	0	0	0	0	0	5
4.	Male above 1-2 years > 2 years	 0 0	0	0	0	0	 0 0	1
5.	Breeding bulls	0	0	0	0	0	0	0
6.	Bullocks	0	0	0	0	0	0	0
7.	Teasers	0	0	0	0	0	0	1
	Sub Total	3	5	1	1	0	0	8
	Grand Total	37	8	18	2	0	0	61

OB = Opening Balance D = Deaths S = Sale B = Births T = Transfer CB = Closing Balance

9.2. Calving Statistics during the period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolapse		Stillbirth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%			No.	%	No.	%
April, 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	1	5.26	0	0	0	0	0	0	0	0	1	5.26
June	1	5.26	1	5.26	0	0	0	0	0	0	0	0	2	10.53
July	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August	1	5.26	0	0	0	0	0	0	0	0	0	0	1	5.26
September	0	0	0	0	0	0	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0	0	0	0	0	0	0
November	1	3.44	0	0	0	0	0	0	0	0	0	0	1	3.44
December	1	3.33	0	0	0	0	0	0	0	0	0	0	1	3.33
January,16	1	3.33	0	0	0	0	0	0	0	0	0	0	1	3.33
February	0	0	0	0	0	0	0	0	0	0	0	0	0	0
March	0	0	1	3.33	0	0	0	0	0	0	0	0	1	3.33
Overall	5	66.64	3	33.34	0	0	0	0	0	0	0	0	8	40.00

Sex ratio Male : Female

9.3. Disposal of Animals during the Period 4/2015 to 3/2016

Sr. No.		Surplus	Rep. Problem	Weal & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months						
2.	Calves >3 – 12 months						
3.	Heifers 1 – 2 years > 2 years						
4.	Buffaloes in Milk						
5.	Buffaloes Dry P /NP						
	Sub Total						**Nil**
	Male						
1.	Calves 0 – 3 months						
2.	Calves >3 – 12 months						
3.	Male 1 – 2 years > 2 years						
4.	Breeding bulls						
5.	Bullocks						
6.	Teasers						
	Sub Total						**Nil**
	Grand Total						**Nil**

9.4. Monthwise Mortality During the Period 4/2015 to 3/2016

Month		**Female**						**Male**					Overall Herd
		0-3	3-6	6-12	1-2 Yrs.	Above 2 Yrs.	Overall Female	0-3	3-6	6-12	Above 1 Yrs.	Overall Male	
Overall	No.	1	5	4	12	30	52	1	3	3	2	9	61
	Died	0	0	1	0	0	1	1	0	0	0	0	1
	d %	0	0	1.00	0	0	1.92	1.22	0	0	0	0	1.64

Calf mortality (0-3 months) was 10.0 percent

9.5. Causes of Mortality (quarterwise) during the period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :				
B. Digestive System :				
C. Circulatory	**1**			
D. Others				
1. Miscellaneous	1			
Total	2			

9.6. Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	No. of animals Available	Inoculated	Screening	No. of animals Tested	Results	No. of animals treated for Parasitism	
FMD	61	59	Nil	Nil	Nil	All animals dewormed	
HS	61	59	Nil	Nil	Nil		
BQ	61	59	Nil	Nil	Nil		
RP	61	0	Nil	Nil	Nil		
Brucellosis	61	9	c-ELISA	59	Negative		

9.7. Female Conception Rate during the Period 4/2015 to 3/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Apr. 15							1	1	100%										1	0	0							1	1	100
May																												0	0	0
June																			3	1	33.33	2	2	100.0				5	3	60.0
July																			1	0	0							1	0	0
Aug.																												0	0	0
Sep.																			5	3	60.0	2	1	50.0	1	1	100.0	7	5	71.4
Oct.																			7	3	42.86	1	1	100.0	2	2	100.0	10	6	60.0
Nov.																						5	2	40.00				5	2	40.0
Dec.																			2	0	0							2	0	0
Jan.																						1	0	0				1	0	0
Feb.																			1	1	100.00	1	0	0				2	1	50.0
Mar., 16																												0	0	0
Total																												35	18	51.4

I = No. of animals inseminated C = No. of animals conceived CR% = Conception rate%

9.8. Bullwise Conception Rate During the period 4/2015 to 3/2016

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	4324	9	5	55.55
2.	4328	6	3	50.00
3.	4354	5	3	60.00
4.	4363	4	1	33.33
5.	4403	6	3	50.00
6.	4438	5	3	60.00
Total		35	18	51.40

9.9 Bull Wise Semen Stock

Bull No.	Set no.	Opening balance	Semen produced /Received	Consumption for AI/ Supplied	Balance
B-851	XIII	67	0	15	52
4354		80	0	8	72
4324		80	0	16	64
4328		85	0	11	74
4363		85	0	9	76
4403		85	0	13	72
4438		85	0	9	76

9.10 Body Weights (Kg.) since inspection

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Month (n)	24 Month (n)	Heifer (n)	Adult (n)
Female								
2014-15	30.15	43.81	75.46	123.11	155.37			457.23
2015-16	30.62±0.27 (3)	54.81±3.12 (4)	87.88±1.27 (12)	141.72±4.28 (5)	-	287.19± 1.42 (4)	-	512.23±0.58 (20)
Male								
2014-15	31.05							386.87
2015-16	31.17±0.18 (5)	60.43±0.85 (3)	95.57±1.14 (3)	153.50				483.00

9.11 Production Performance of Buffaloes Completing Lactation during 4/2015 to 3/2016

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	1	1732.50	287	1732.50	8.7
2nd	5	1944.2±126.46	312.6±10.33	1875.8±89.97	9.3±0.43
3rd	7	2015.4±99.95	337.4±8.59	1856.3±72.75	8.9±0.34
4th	5	2155.9±92.57	342.2±11.43	1895.2±42.64	9.1±0.45
5th & above					
Overall	18	2018.9±60.35	329.04±6.35	1865.6±36.75	9.06±0.28

Figures in parenthesis indicate number of observations

9.12 Production Performance of Buffaloes since Inception of Network

Year	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
2014-15	2176.98±89.23 (13)	421.21±8.56 (13)	1827.22±46.22 (13)	9.72±0.32 (13)
2015-16	2018.90±60.35 (18)	329.04±6.35 (18)	1865.6±36.75 (18)	9.06±0.28 (18)

9.13 Average Milk Components during the Period (Month-Wise) 4/2015 to 3/2016

Month	**Animal in milk (N)**	**Av. Fat (%)**	**SNF**	**Protein**	**Lactose**
April, 2015	7	7.32	9.12	4.15	4.68
May	7	7.40	9.01	4.08	4.56
June	8	7.58	8.87	3.99	4.45
July	8	7.27	8.95	3.95	4.60
August	8	7.22	9.05	4.05	4.73
September	9	7.25	9.15	3.98	4.86
October	18	7.34	9.23	4.12	4.90
November	19	7.38	9.12	4.10	4.72
Overall	84	7.35	9.09	4.06	4.72

9.14 Reproduction Performance of Buffaloes During the Period 4/2015 to 3/2016

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (Months)						
Average Service Period (Days)		133.15±6.53 (4)	139.16±5.86 (5)	147.27±7.08 (3)		139.86±4.76 (12)
Average Dry Period (Days)		94.15±1.27 (4)	87.77±1.75 (5)	100.59±0.98 (3)		94.17±1.70 (12)
Average Calving Interval (Days)		406.85±1.15 (4)	425.17±1.58 (5)	442.69±0.90 (3)		424.90±1.42 (12)

9.14.1 Reproduction Performance of Buffaloes Since inception of Network.

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
2014-15		146.3±8.98 (9)	124.9±5.91 (9)	569.4±14.54 (9)
2015-16		139.86±4.76 (12)	94.17±1.70 (12)	424.90±1.42 (12)

9.15 Month-wise Milk Production and Disposal during the Period 4/2015 to 3/2016

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	1040.50	771	268.50	1.00
May	1120.00	812.5	307.00	1.00
June	1813.00	1206.5	605.50	1.00
July	1970.50	1522	447.00	1.00
August	1990.00	1452	537.00	1.00
September	1937.00	1439	497.00	1.00
October	4883.50	1729.5	3153.00	1.00
November	4271.50	3092.5	1177.00	2.00
December	5121.00	3102.5	2019.00	0
January, 16	4959.50	3323	1636.50	0
February	4335.00	2927	1409.00	0
March	4638.00	2578	2059.00	0
Total	38079.50	23955.50	14115.50	9.00

Sale price of buffalo milk is Rs.34/- per litre.

9.16 Feed and fodder purchased and offered to animals during the period 4/2015 to 3/2016

Month	Type of fodder/feed	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
April, 15	Green	10.1	0	10.1	0
	Dry	0	57.5	57.5	0
	Silage	0	0	0	0
	Concentrate	0	300	295	5
May	Green	153.60	0	153.6	0
	Dry	0	55.5	55.5	0
	Silage	0	0	0	0
	Concentrate	0	700	395	310
June	Green	338.68	0	338.68	0
	Dry	0	55.0	55.0	0
	Silage	0	0	0	0
	Concentrate	0	300	418	192
July	Green	190.5	0	190.5	0
	Dry	0	58.0	58.0	0
	Silage	0	0	0	0
	Concentrate	0	200	392	0
August	Green	205	0	205	0
	Dry	0	60.5	60.5	0
	Silage	0	0	0	0
	Concentrate	0	500	390	110
September	Green	171	0	171	0
	Dry	0	61.0	61.0	0

	Silage	0	0	0	0
	Concentrate	0	300	407	3
October	Green	85	0	85	0
	Dry	0	72.0	72.0	0
	Silage	0	0	0	0
	Concentrate	0	550	425	128
November	Green	65	0	65	0
	Dry	0	93.5	93.5	0
	Silage	0	0	0	0
	Concentrate	0	650	445	333
December	Green	46.5	0	46.5	0
	Dry	1.5	90.5	92.0	0
	Silage	0	0	0	0
	Concentrate	0	200	478	55
January 16	Green	38.7	0	38.7	0
	Dry	10	85.0	95.0	0
	Silage	0	0	0	0
	Concentrate	0	650	510	195
February	Green	13.34	0	13.34	0
	Dry	5	90.0	95.0	0
	Silage	0	0	0	0
	Concentrate	0	500	540	155
March	Green	17.18	0	17.18	0
	Dry	0	95.5	95.5	0
	Silage	0	0	0	0
	Concentrate	0	500	570	85
Total	Green	1335	0	1335	0
	Dry	16.5	874	891	0
	Silage	0	0	0	0
	Concentrate	0	5350	5265	85

9.17. Milking performance during the period 4/2014 to 3/2015

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	7	12	37	37	4.95	1.82
May	7	12	37	37	5.16	1.90
June	8	11	37	42	7.55	3.18
July	8	11	37	42	7.94	3.35
August	8	11	38	42	8.02	3.38
September	9	10	38	45	7.17	3.07
October	18	11	56	58	8.75	4.38
November	19	10	58	58	7.49	4.91
December	20	10	59	66	8.26	5.41
January, 16	19	11	58	66	8.42	5.81
February	19	12	60	62	8.15	5.12
March	20	11	61	67	7.48	4.55
Overall	13.5	11.0	48	51.83	7.45	3.91

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2014-15	8.17	10.83	19	42.98	3.98	1.71
2015-16	13.5	11.0	61	51.83	7.45	3.91

9.17 Bull wise daughters born during the period 4/2015 to 3/2016

Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lactation
B-851	7	Nil	Nil

9.19 Bull wise daughters completing 1ST lactation during 4/2015 to 3/2016 : Nil

9.20 List of breeding /young bulls as on 31-03-2016: Nil

9.21 Target achieved during the year 2014-15

S. No.	**Trait**	**Target**	**Achieved**
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	-
2.	Av. Age at first calving	40 months	-
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	-
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	-
5.	Av. Service period	130 days	137.95±4.38
6.	Calf mortality (0-3 months)	≤ 5 %	2.70
7.	Wet average	≥ 8.5 kg.	7.45
8.	Herd average	≥ 4.5 kg.	3.91

10. Research Achievements:

- Mortality in buffalo farm is being maintained less than 5 per cent continuously for the second year in succession (Two calves died in the year 2015-16. A male calf aged 2 months old, reportedly died by getting under the feet of an adult buffalo; second calf aged 9 months, had sudden death. P.M. report revealed excessive fat accumulation around the visceral organs).
- Conception rate in buffalo farm has been maintained above 50.00 per cent in the second year in succession. Continuous interventions in reproduction has brought more animals in heat and better conception and calving rates.
- Wallowing tank was desilted during the winter month when wallowing was not needed, in order to keep the tank ready for summer months.
- Round the year green fodder is provided to the buffaloes. Entire green fodder requirement of the buffaloes have been met with internal production. Fodder crops cultivated are: Berseem and Oat in winter, Jowar and MP Chari during summer and rainy season.

- ❖ Continuous evaluation of concentrate feed for its proximate principles to ensure the quality of feed being offered to the buffaloes. Concentrate feed required for feeding the buffaloes are being continuously purchased from the feed plant of Patna Dairy Project, a cooperative Dairy Milk Union Ltd., under Govt. of Bihar.
- ❖ Periodic vaccination against FMD, HS&BQ, and regular deworming have been carried out to the project buffaloes.
- ❖ In order to ensure the cleanliness in the shed even during the period of electricity shut down, the solar operated pump has been installed in the farm to ensure the water availability 24 × 7 hours.
- ❖ Fat from milking buffaloes are estimated and recorded every fortnight.

Project Co-ordinator's observations on centre performance

Herd Performance

The herd strength of farm increased to 61 head from 37 in 2014-15 comprising 43 breedable buffaloes. 10 new buffaloes with 8 followers were purchased. 8 calving (3 Females and 5 Males) were reported. The calf mortality (0-3 months) was 10.00 percent (1/10). Thirty five AI's were carried out resulting in 18 conceptions with conception rate of 51.40.

Av. Lactation yield, Av. Lactation length and 305 or less day milk yield were 2018.90 (n=18), 329.04.21 (n=18) and 1865.64 (n=18) respectively during the year which is almost stable from the last year. The service period dry period and calving interval were 139.86±4.76 days (n=12), 94.17±1.70 days (n=12) and 424.90±1.42 days (n=12) respectively depicting marked improvement. The wet and herd averages at the centre improved from previous year and it is 7.45kg (n=14) and 3.91 kg (n=25) respectively with 56.00 % buffaloes in milk.

9.21 Target achieved during the year 2015-16

S. N.	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	-	
2.	Av. Age at first calving	40 months	-	
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	-	
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	-	
5.	Av. Service period	130 days	139.86±4.76	146.3±8.98
6.	Calf mortality (0-3 months)	≤ 5%	10.00 %	14.29
7.	Wet average	≥ 8.5 kg	7.45	3.98
8.	Herd average	≥ 5.5 kg	3.91	1.71

Recommendations:

Calf feeding of milk is very high and consumed 37 percent of milk produced at the centre. It needs to be checked and rationalized.

Livestock Research Station, Thiruvizhamkunnu (KVASU)

Report Period:

1. Name of center : Livestock Research Station, Thiruvizhamkunnu.
2. Project Code : 18(2)2007-ASR II Dt.30/12/2008
3. Project Title : Network Project on Buffalo Improvement.
4. Date of Start : 1/4/2009
5. Objectives :To envisage and undertake progeny testing for improvement of murrah breed of buffaloes. Priority and emphasis will be on performance recording and improvement of the breed.
6. Technical Programme : As per the technical programme of murrah breed of NWP
7. Financial Statement : For 2015-16- NIL
8. Staff Position (Present and revised) : NIL
9. Herd Performance : **9.1 to 9.21**
10. Research Achievements:

9.1 Herd Strength during the Period 4/2015 to 3/2016

Category		Addition		Disposal				
Sr. No.		OB	B	T	D	T	S	CB
Female								
1.	Calves 0 – 3 months	0	8		3			5
2.	Calves >3 – 12 months	3	4		1	3		5
3.	Heifers 1 – 2 years > 2 years	25 27		3 6	 4	 15p		28 12
4.	Buffaloes in Milk	44		1	1	8+1p		35
5.	Buffaloes Dry P /NP	7+21		16p	6		5	23+10
	Sub Total	130	12	26	15	27	5	118
Male								
1.	Calves 0 – 3 months	1	15		4			12
2.	Calves >3 – 12 months	9	3		2	3	1	9
3.	Male above 1 – 2 years > 2 years	28		3 2		2	24	5 2
4.	Breeding bulls							
5.	Bullocks							
6.	Teasers							
	Sub Total	35	18	3	6	3	25	25
	Grand Total	165	30	29	21	30	30	143

OB = Opening Balance D = Deaths; S = Sale; B = Births; T = Transfer; CB = Closing Balance

9.2. Calving Statistics during the period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15														
May														
June	1	100												
July														
August														
September														
October	1	100												
November	3	50	3	50										

December	1	100	1	100			1							
January,16	3	75	1	25										
February	4	55.5	4	44.5										
March	5	62.5	3	37.5										
Overall	18		12											

Sex ratio Male : Female 60 : 40

9.3. Disposal of Animals during the Period 4/2015 to 3/2016

Sr. No.		Surplus	Rep. Problem	Weal & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months				3		3
2.	Calves >3 – 12 months				1		1
3.	Heifers 1 – 2 years > 2 years				4		4
4.	Buffaloes in Milk		9		1		10
5.	Buffaloes Dry P /NP		6	5 NP			11
	Sub Total						
	Male						
1.	Calves 0 – 3 months				4		4
2.	Calves >3 – 12 months	1			2		3
3.	Male 1 – 2 years > 2 years	24					24
4.	Breeding bulls						
5.	Bullocks						
6.	Teasers						
	Sub Total						
	Grand Total	25		5	30		60

9.4. Monthwise Mortality during the Period 4/2015 to 3/2016

Calf mortality was 29.17 % (7/24)

9.5. Causes of Mortality (quarterwise) during the period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :				
1. Broncho-Pheumonia	4	3	1	1
B. Digestive System :				
1. Septicamia & Toxaemia	3		2	
C. Circulatory				
D. Others				
Total	7	3	3	1

9.8 Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	No. of animals Available	Inoculated	Screening	No. of animals Tested	Results	No. of animals treated for Parasitism etc.	
FMD	123	123					
HS	123	123				143	
BQ			JD				
RP			TB				
Brucellosis							

9.7. Female Conception Rate during the Period 4/2015 to 3/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Jan. 15	1	0	0				3	0	0	1	0	0	1	0	0				3	1	0							9	1	11.11
Feb.	7	1	14.28				1	0	0	1	0	0							8	0	0	1	0	0				18	1	5.55
March	6	3	50							2	0	0	2	1	50				2	1	50	3	0	0	3	0	0	18	5	27.77
April				3	1	33.3	6	1	16.6				1	1	100	1	1	100				2	1	50	2	1	50	15	6	40
May	2	0	0				9	2								2	1	50	4	1	25	2	1	50	4	3	75	23	8	34.78
June	1	0	0				3	1	33.3	1	0	0							3	1	33.3	1	0	0	4	1	25	13	3	23.07
July	3	0	0	1	0	0	4	1	25							1	0	0				2	0	0	5	1	20	16	2	12.5
Aug.				1	0	0	4	2	50	1	1	100				2	1	50				3	0	0	4	2	50	15	6	40
Sep.				1	0	0	3	1	33.3							1	0	0	1	0	0	2	0	0	1	0	0	9	1	11.11
Oct.	2	0	0	2	0	0	8	2	25	2	1	50							2	1	50	2	0	0	8	0	0	26	4	15.38
Nov.				1	1	100	4	0	0							3	0	0							3	0	0	11	1	9.09
Dec. 15				1	0	0	5	0	0													1	0	0	3	1	33.3	10	1	10
Total	22	4	18.18	10	2	20	50	10	20	8	2	25	4	2	50	10	3	30	23	5	21.73	19	2	10.5	37	9	24.3	183	39	**21.31**

I = No. of animals inseminated C = No. of animals conceived CR% = Conception rate%

9.8. Bull-wise Conception Rate During the period 4/2015 to 3/2016

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	KA10573	107	17	15.88
2.	KA657745	78	12	15.38
3.	SAHIB RSMS	3	1	33.33
4.	657346	12	7	58.33
5.	657860	33	12	36.36
Total		233	49	21.03

9.9 Bull-wise Semen Stock

Bull No.	Set no.	Opening balance	Semen produced /Received	Consumption for AI/ Supplied	Balance
657860		0	150	33	117

9.10 Body weights since inception of Network

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Heifer (n)	Adult (n)
Female	……. Information not provided……..							
Male	……. Information not provided……..							

9.11 Production performance of buffaloes completing lactation during the period 4/2015 to 3/2016

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	5	1673.52	500	1294.42	7.09
2nd	9	1978.03	469	1557.65	9.6
3rd	2	1799	332	1758.75	8.9
4th	4	1401.2	364	1260.25	6.35
5th & above	5	1828.3	424	1582.94	7.98
Overall	25	1780.4	438	1478.5	8.2

Figures in parenthesis indicate number of observations

9.12 Production performance of buffaloes since inception of Network

Year	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
2012-13	1375.62(36)	253	1551.07	8.37
2013-14	1605.96(36)	243	1610.76	8.52
2014-15	1136.89(51)	255	1566.44	7.49
2015-16	1780.54(25)	438	1478.5	8.2

9.13 Average Milk components during the period (Month-Wise) 4/2015 to 3/2016:

Month	**Animal in milk (N)**	**Av. Fat (%)**	**SNF**	**Protein**	**Lactose**
April, 2015 to March 2016	No information				

9.14 Reproduction Performance of Buffaloes During the Period 4/2015 to 3/2016

Traits	Lactation No.					Overall Mean ± SE (N)
	1Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	
Average Age at Calving Months)	48 ± 3 (13)					48 ± 3 (13)
Average Service period (Days)	367±66 (5)	303±54 (7)	665 (1)		406±48 (3)	365± 38 (16)
Average Dry Period (Days)		135±8 (4)	140±16 (6)	90 (1)	130±36 (3)	136±10 (14)
Average Calving Interval (Days)	534±12 (5)	649±161 (2)	923±479 (2)			646±100 (9)

9.17.1 Reproduction Performance of Buffaloes Since inception of Network.

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
2012-13	43	323	98	509
2013-14	50	277	115	555
2014-15	59	403	120	697
2015-16	48	365	136	646

9.15 Month wise milk production and disposal during the Period 4/2015 to 3/2016

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	5454.2	5041.1	413.1	
May	4904.3	4718.1	186.2	
June	4488	4412.6	75.4	
July	4619.9	4563.5	56.4	
August	3762.8	3698.8	64	
September	2693	2630.8	62.2	
October	2399.9	2399.9	0	
November	2631.3	2417	214.3	
December	2956.3	2392.3	564	
January, 16	3455.1	2678.5	776.6	
February	4053.7	3206.9	846.8	
March	5349.4	4485.5	863.9	
Total	**46767.9**	**42645**	**4122.9**	

Note: Mention sale price of milk (range during the year) **Rs.43/L**

9.16 Feed and fodder purchased and offered to animals during the period 4/2015 to 3/2016

Month	Type of fodder/feed	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
April, 15	Green	139090	0	86981	52109
	Dry	0	14930	1260	13670
	Silage	85250	0	28416	56834
	Concentrate	0	38911	11480.5	6791
May	Green	172235	0	93990	78245
	Dry	0	16550	3160	13390
	Silage	59900	0	19965	39935
	Concentrate	0	44291	12188	6262
June	Green	232530	0	107756	124774
	Dry	0	13390	4545	8845
	Silage	107785	0	35928	71857
	Concentrate	0	32262	11520	3672
July	Green	275525	0	105565	169960
	Dry	0	8845	5297	3548
	Silage	0	0	12800	0
	Concentrate	0	37222	12152	1862
August	Green	345035	0	111360	233675
	Dry	0	5548	5088	460
	Silage	0	0	0	0
	Concentrate	0	29262	12717	24
September	Green	392729	0	102350	290379
	Dry	0	9530	6061	3469
	Silage	0	0	0	0
	Concentrate	0	34124	11935.5	1504

October	Green	372274	0	104876	267398
	Dry	0	5979	3870	2109
	Silage	0	0	0	0
	Concentrate	0	30904	10921	277
November	Green	261535	0	91346	170189
	Dry	0	7119	5841	978
	Silage	0	0	0	0
	Concentrate	0	35277	10238.5	4710
December	Green	248265	0	75726	172539
	Dry	0	15133	10179	4954
	Silage	0	0	0	0
	Concentrate	0	28660	10232	5014
January 16	Green	188490	0	40180	148310
	Dry	0	18484	10850	7634
	Silage	81120	0	17990	63130
	Concentrate	0	29314	10896.5	6210
February	Green	121250	0	39495	81755
	Dry	0	13059	11232	1827
	Silage	132480	0	18590	113890
	Concentrate	0	31160	10345	5313
March	Green	152135	0	63240	88895
	Dry	0	10202	8581	1621
	Silage	144900	0	20500	124400
	Concentrate	0	25663	10683.5	6799
Total	Green	**2901093**		**1022865**	**1796132**
	Dry		**138769**	**75964**	**62505**
	Silage	**611435**		**154189**	**470046**
	Concentrate		**397050**	**135309.5**	**130534**

9.17. Milking performance during the period 4/2015 to 3/2016

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	46	17	63	73.02	3.95	2.89
May	46	17	63	73.02	3.44	2.51
June	47	17	64	73.44	3.18	2.34
July	46	18	64	71.88	3.24	2.33
August	36	19	55	65.45	3.37	2.21
September	32	23	55	58.18	2.81	1.63
October	27	26	53	50.94	2.87	1.46
November	25	28	53	47.17	3.51	1.65
December	26	26	52	50.00	3.67	1.83
January, 16	28	25	53	52.83	4.11	2.17
February	31	24	55	56.36	4.67	2.63
March	37	18	55	67.27	4.82	3.24
Overall	**35**	**21**	**56**	**62.5**	**3.64**	**2.24**

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2012-13	36	27	63	57.14	4.75	2.72
2013-14	36	36	72	50.00	5.55	2.78
2014-15	51	21	72	70.83	3.79	2.68
2015-16	35	21	56	62.50	3.85	2.41

9.18 Bull wise daughters born during the period 4/2015 to 3/2016

Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lactation
KA 10573	0	7	-
1417	0	0	2
83	0	0	1
1921	0	0	2
KA 10575	14	0	0
KA 10578	5	0	0
B 838	7		
RSM -36	2		
KA 10572	1		
657745	3		
657346	3		

9.19 Bull wise daughters completing 1st lactation during the period 4/2015 to 3/2016

Bull No.	Daughter No.	Date of birth	Date of calving	1st lact. 305 day or less milk yield (kg)	Total yield/ L.L	Remarks
1417	201	14/9/2010	9/6/2014	1467.6	1768.9/508 days	
83	211	2/4/2011	2/7/2014	1491.2	1755.5/430 days	
1417	197	21/4/2010	16/12/2014	1663.3	1943.6/397 days	
1921	162	1/9/2008	29/5/2014	1316.2	1990.8/591 days	
1921	164	1/8/2008	7/2/14	595.9	888.8/590 days	

9.20 List of breeding /young bulls as on 31-03-2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best lact.305 or days less yield (kg)	Semen doses available	Remarks
1	238	8/2/14	131	4059	1354.4		
2.	241	30/12/13	156	4059	2498		
3.	276	1/8/14	29	KA10575	2315.9		
4.	288	14/12/14	203	KA10575	1435.7		
5.	289	17/12/14	53	KA10575	1659		
6.	294	15/2/15	70	657745	1563.2		
7.	295	20/2/15	222	657745	1501.3		
8.	300	4/6/15	205	657745	1777.1		
9.	301	29/10/15	165	KA10575	1968		

9.21 Target achieved during the year 2015-16

S. N.	**Trait**	**Target**	**Achieved**	
			2015-16	**2014-15**
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	-	--
2.	Av. Age at first calving	40 months	48	--
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)		--
4.	Av. Age at first collection	30 months (400 kg. B. wt.)		--
5.	Av. Service period	130 days	365	--
6.	Calf mortality (0-3 months)	≤ 5%	30%	--
7.	Wet average	≥ 8.5 kg	3.85	--
8.	Herd average	≥ 5.5 kg	2.41	--

Project Co-ordinator's observations on centre performance

Herd Performance

The herd strength of farm was 143 comprising 80 breedable buffaloes. 16 new buffaloes were purchased. 30 calving (12 Females and 18 Males) were reported. The calf mortality (0-3 months) was 29.17 percent (7/24). 183 AI's were carried out resulting in 39 conceptions with conception rate of 21.3.

Av. Lactation yield, Av. Lactation length and 305 or less day milk yield were 1780.4 kg (n=25), 438 days (n=25) and 1478 kg (n=25) respectively during the year. The service period dry period and calving interval were 365 days (n=16), 136 days (n=14) and 646 days (n=9) respectively. The wet and herd averages at the centre is 3.64 kg (n=35) and 2.24 kg (n=56) respectively with 62.00 % buffaloes in milk.

9.21 Target achieved during the year 2015-16

S. N.	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	-	--
2.	Av. Age at first calving	40 months	48	--
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	-	--
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	-	--
5.	Av. Service period	130 days	365	--
6.	Calf mortality (0-3 months)	≤ 5%	29.17	--
7.	Wet average	≥ 8.5 kg	3.85 kg	--
8.	Herd average	≥ 5.5 kg	2.41 kg	--

Recommendations:

Calf mortality (0-3 months) 29.17 % and Service period 365 day at the centre showing poor calf and reproductive management. The centre performance is very poor and there is deterioration in all the traits over the years. The centre is recommended for exclusion from the NPBI.

ICAR-CIRB SUB CAMPUS, NABHA

1. **Name of the center** : Central Institute for Research on Buffaloes, Sub campus, Nabha

2. **Project Code** : 18-3/97 ASR-II Dated 29/03/2001

3. **Project title** : Network project on improvement of Nili Ravi buffaloes

4. **Date of Start** : 11/10/ 2001

5. **Objectives:** The objective of the project is to envisage and undertake progeny testing for improvement of Nili Ravi breed of buffaloes. Priority and emphasis will be on performance recording and improvement of the breed and on semen quality testing laboratory.

6. **Technical Programme:** As approved for the Network programme.

7. Staff position at CIRB sub-campus Nabha as on 31/03/2016: Redeployment

8. Herd Performance: Presented in table 9.1 to 9.21

9.1 Herd strength during the period 2015-16

Category		Addition		Disposal				
Sr.No.		OB	B	T	D	T	S	CB
	Female							
1.	Calves 0 – 3 months	13	73		04	72	-	10
2.	Calves >3 – 12 months	54		148	01	142	01	58
3.	Heifers							
	1 – 2 years	43		66	-	43	-	66
	> 2 years	85		120	01	137	02	65
4.	Buffaloes in Milk	110		150	01	112	25	122
5.	Buffaloes Dry P /NP	40		112	01	90	21	40
	Sub Total	345	73	596	08	596	49	361
	Male							
1.	Calves 0 – 3 months	09	73		07	65	03	07
2.	Calves >3 – 12 months	46		141	-	115	16	56
3.	Male above							
	1 – 2 years	46		39	-	25	32	28
	> 2 years	26		33	01	08	21	29
4.	Breeding bulls	16		-	01	-	08	07
5.	Bullocks	01		-	-	-	-	01
6.	Teasers	02		-	-	-	-	02
7.	Exp.Animals	02	-	-	-	-	02	00
	Sub Total	148	73	213	09	213	82	130
	Grand Total	493	146	809	17	809	131	491

OB = Opening Balance D = Death S = Sale R = Received
CB = Closing Balance B = Birth T = Transfer

9.2 Calving statistics during the period 2015-16

Month	Male No.	%	Female No.	%	Dystokia No.	%	Prolepses No.	%	Still Birth No.	%	Abortion No.	%	Overall No.	%
April, 15	02	2.74	03	4.11	-	-	-	-	-	-	-	-	05	3.33
May	07	9.59	01	1.37	-	-	-	-	-	-	-	-	08	5.33
June	09	12.33	03	4.11	-	-	-	-	-	-	01	0.67	12	8.00
July	07	9.59	15	20.55	-	-	-	-	01	0.67	-	-	23	15.33
August	08	10.96	08	10.96	-	-	-	-	-	-	-	-	16	10.67
September	12	16.44	11	15.07	-	-	-	-	-	-	-	-	23	15.33
October	06	8.22	05	6.85	-	-	-	-	-	-	01	0.67	11	7.33
November	08	10.96	10	13.70	-	-	-	-	01	0.67	-	-	19	12.67
December	05	6.85	06	8.22	-	-	-	--	-	-	-	-	11	7.33
January,16	04	5.48	05	6.85	-	-	-	-	02	1.33	-	-	11	7.33
February	03	4.11	04	5.48	-	--	-	-	-	-	-	-	07	4.67
March	02	2.74	02	2.74	-	-	-	-		-	01	0.67	04	2.67
Overall	73		73						04		03		150	99.99

Sex ratio Male 50 : Female 50

9.3.Disposal of animals during the period 2015-16

Sr. No.		Surplus	Sold to farmers/State AH Pb	Rep. Problem	Weal & Old	Death	Experimental purpose	Total
	Female							
1.	Calves 0 – 3 months	-	-		-	04	-	04
2.	Calves >3 – 12 months	01	-		-	01	-	01
3.	Heifers 1 – 2 years > 2 years	- 02	- -		- -	- 01	- -	- 03
4.	Buffaloes in Milk	25	-		-	01	-	26
5.	Buffaloes Dry P /NP	21	-		-	01	-	22
	Sub Total	49	-		-	08	-	57
	Male							
1.	Calves 0 – 3 months	03	-		-	07	-	10
2.	Calves >3 – 12 months	16	-		-	-	-	16
3.	Male 1 – 2 years > 2 years	26 08	06 13		- --	- 01	- -	32 22
4.	Breeding bulls	02	06		-	01	-	09
5.	Bullocks	-	-		-	-	-	-
6.	Teasers	-	-		-	-	-	-
7.	Exp. Animals	02	-		-	-	-	02
	Sub Total	82	-		-	09	-	91
	Grand Total	106	25		-	17	-	148

9.4 Month wise mortality during the period 2015-16

Females								*Males*						
Month		***0-3***	***3-6***	***6-12***	***>1yr***	***>2yrs***	***All***	***0-3***	***3-6***	***6-12***	***>1yr***	***>2yrs***	***All***	***Total***
Overall	No	**86**	**97**	**105**	**109**	**235**	**418**	**82**	**93**	**94**	**85**	**80**	**221**	**639**
	Died	**04**	**01**	**-**	**-**	**03**	**08**	**07**	**-**	**-**	**-**	**02**	**09**	**17**
	%	**4.65**	**1.03**	**-**	**-**	**1.28**	**1.91**	**8.53**	**-**	**-**	**-**	**2.5**	**4.07**	**2.66**

Overall calf mortality (0-3m) 6.55 percent (11/168)

9.5 Causes of mortality (quarter wise) during the period 2015-16

Particulars	***1st quarter***	***2nd quarter***	***3rd quarter***	***4th quarter***
A. Respiratory System:				
1. Bronchopneumonia			3	
2. Pheumo-Enteritis				1
B.Digestive system				
1. Enteritis		1	1	3
2.Tympanitrs	1			
C. Cardivascular System				
D. Urogenital System				
E. Others.				
1. Joint-ill/ Naval ill		2		
2.Neurological disorder			1	
3.Tetanus	1			
4.Snake bite		1		
5. Miscellaneous & Others		2		
Total	**2**	**6**	**5**	**4**

9.6 Prophylactic measures taken during the period 2015-16

Vaccination	No. of animals		Screening	No. of animals		No. of animals treated for Parasitism etc.
	Available	Inoculated		Tested	Results	
FMD	590	590	TB	215	Negative*	600
HS	590	590	JD	215	Negative*	
BQ	-	-	Brucellosis	215	Negative**	
RP	-	-	Mastitis	185	**15 Positive *****	
Brucellosis	49	49	IBR	-	-	
			Leptospirosis	-	-	

* Based on Intradermal Tuberculin PPD/Johnin PPD ** Based on RBPT /SAT; ***Based on CMT

9.7 Bull-wise conception rate during the period 2015-16

Sr. No.	***Bull No.***	***Total No. of AI***	***Total Conceived***	***CR%***
1	R-1	01	-	-
2	251	32	09	28.13
3	254	98	40	40.82
4	168	87	36	41.38
5	245	56	16	28.57
6	181	65	30	46.15
7	252	79	31	39.24
8	226	21	03	14.29
Total		439	165	37.59

9.8. Bull wise conception rate

Sr. No.	*Bull No.*	*Set No.*	*Total No. of AI*	*Total Conceived*	*CR%*
1	R-1	4th	01	-	-
2	251	6th	32	09	28.13
3	254	-do-	98	40	40.82
4	168	-do-	87	36	41.38
5	245	-do-	56	16	28.57
6	181	-do-	65	30	46.15
7	252	-do-	79	31	39.24
8	226	-do-	21	03	14.29
Total			439	165	37.59

9.9.Bull Wise Semen Stock

Bull No.	Set no.	Opening balance	Semen produced /Received	Consumption for AI/ Supplied	Balance
411	1st	693			693
439		698			698
453		670			670
455		670			670
464		770			770
473		760			760
479		770			770
523	2nd	800			800
524		1382			1382
525		573			573
528		-			
535		897			897
562		898			898
576		340			340
577		1380			1380
579		710			710
596	3rd	1330			1330
674		1390			1390
702		1240			1240
716		1350			1350
719		1200			1200
771		570			570
791		1070			1070
802		1200			1200
806	4th	1500			1500
878		2000			2000
881		1520			1520
891		1500			1500
900		1500			1500
902		1500			1500
905		1500			1500
916		1530			1530
930		1500			1500
941		1530			1530
R-1		10		10	0
R-2		45		15	30
R-3		15		10	5

991	5th	2235	1930	2350	1815
003		520			520
025		1540	5770	6355	955
027		955			955
063		2500			2500
113		2070			2070
168	6th	585	600	1063	122
181		908	460	413	955
226		0	60	50	10
251		85		25	60
252		0	500	208	292
254		40	980	363	657
245		500		121	379
214		1200	2230	3345	85
298			2180	2130	50
231		895	180	1075	0
	Total	51044	14890	17533	48401

9.10 Body weights (in kg) since inception of Network

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Heifer (n)	Adult(n)
Female								
2001-02	35.9(48)	74.1(36)	106.0(29)	-	-	-	-	-
2002-03	-	-	-	-	-	-	-	-
2003-04	30.7(79)	58.3(67)	88.2(39)	-	-	255.0(60)	-	-
2004-05	33.8(65)	63.4(64)	90.0(43)			225.1(61)	-	-
2005-06	34.5(64)	61.7(63)	94.7(31)	-	-	202.26(54)	-	-
2006-07	32.8(59)	65.3(43)	109.5(21)	166.6(17)	245.9(26)	280.0(25)		507.0 (150)
2007-08	32.8(43)	55.0(45)	99.5(25)	207.5(30)	273.6(28)	322.3(30)		547.2 (148)
2008-09	34.7(65)	69.5(27)	108.4(29)	166.7(29)	272.5(26)	356.7(14)		527.2 (168)
2009-10	32.9(69)	50.2(13)	75.1(17)	124.8(34)	243.7(22)	273.9(37)		539.2 (141)
2010-11	32.1(53)	59.1(34)	89.0(18)	121.8(30)	227.1(31)	317.6(35)		536.8 (130)
2011-12	32.8(62)	-	76.3(36)	102.4(09)	-	325.7(08)		526.4 (119)
2012-13	32.3(63)	74.8(46)	121.3(47)	203.5(56)	276.6(42)	351.7(39)		555.3 (110)
2013-14	33.4(43)	71.7(48)	112.5(49)	210.9(54)	291.7(53)	365.1(48)		539.4(140)
2014-15	35.0(68)	72.0(61)	122.0(49)	189.0(40)	279.0(49)	340.0(58)		548.0(149)
2015-16	35.0(65)	69.0(55)	108.0(64)	199.0(48)	252.0(27)	325.0(27)		533.0(169)
Male								
2001-02	37.8(43)	70.1(40)	100.8(22)	-	-	-	-	537.0(14)
2002-03	-	-	-	-	-	-	-	-
2003-04	33.4(63)	60.4(65)	87.8(50)	-	-	252.1(15)	-	524.5(15)
2004-05	37.1(54)	66.6(46)	98.2(23)	-	-	270.0(21)		603.0(23)
2005-06	36.1(67)	68.2(54)	104.0(21)	-	-	243.0(12)		566.3 (22)
2006-07	33.0(56)	66.3(41)	97.8(28)	199.3(21)	255.0(04)	277.4(12)		577.2 (18)
2007-08	33.1(68)	64.5(57)	103.3(27)	146.5(21)	219.9(12)	324.0(16)		610.9 (11)
2008-09	34.8(64)	72.2(45)	104.4(22)	168.3(28)	270.9(12)	354.3(16)		604.4 (13)
2009-10	34.3(70)	47.8(16)	76.7(16)	112.7(22)	223.8(12)	357.5(15)		575.0 (13)
2010-11	32.9(45)	74.0(35)	94.6(21)	163.7(20)	243.8(15)	320.3(16)		560.0 (12)
2011-12	32.6(59)	72.4(19)	114.0(27)	168.1(16)	248.7(22)	326.7(26)		535.2 (12)
2012-13	34.24(70)	81.6(52)	125.8(50)	203.2(33)	283.0(06)	382.0(08)		651.6 (16)
2013-14	36.01(75)	77.8(56)	124.3(66)	230.9(34)	319.8(32)	391.0(12)		674.1 (21)
2014-15	36.01(57)	72.0(58)	112.0(46)	197.0(48)	249.0(19)	360.(20)		675.0(21)
2015-16	36.0(68)	79.0(52)	108.0(53)	208.0(21)	233.0(26)	315.0(11)		570.0(27)

9.11 Production of buffaloes completing lactation during the period 01/04/2015 – 31/03/16

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	36	2476±95.1	327±9.70	2319±67.6	10.7±0.24
2nd	27	2607±139.5	304±12.1	2501±116.2	13.0±0.47
3rd	26	2565±131.8	286±9.35	2527±122.3	13.1±0.45
4th	09	2648±133.0	303±14.6	2596±123.0	13.1±0.53
5th& above	12	2669±117.4	285±13.0	2646±111.5	14.2±.045
Overall	110	2564±57.8	305±5.39	2471±49.3	12.4±0.21

9.12 Production performance of buffaloes (General herd) since inception of Network project.

Year	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
2001-02	1926 (86)	296 (86)	1885(86)	10.00(86)
2002-03	2007(105)	293 (105)	1941(105)	10.49(105)
2003-04	1968 (93)	307 (93)	1895(93)	10.49(93)
2004-05	1974 (116)	315 (116)	1848(116)	08.00(116)
2005-06	2190 (102)	306 (102)	2090(102)	10.00(102)
2006-07	1921 (118)	304 (118)	1795(118)	09.00(118)
2007-08	1787 (122)	302 (122)	1629(122)	09.10(122)
2008-09	2036 (108)	289 (108)	1929(108)	09.94(108)
2009-10	1927(146)	302(146)	1822(146)	09.40(146)
2010-11	2042 (115)	292 (115)	1972(115)	10.54(115)
2011-12	2045(88)	279(88)	1998 (88)	10.60 (88)
2012-13	2048(123)	264(123)	2017 (123)	11.14 (123)
2013-14	2297(109)	285(109)	2241(109)	12.20(109)
2014-15	2464(115)	303(115)	2384(115)	12.38(115)
2015-16	2564(110)	305(110)	2471 (110)	12.40 (110)

9.13 Average Milk Components during the period (month wise) 4/2015 to 3/2016

Month	**Animal in milk (N)**	**Av. Fat (%)**	**SNF**	**Protein**	**Lactose**
April, 2015		-	-		
May		-	-		
June		-	-		
July		-	-		
August	60	7.58	9.21		
September	57	7.39	9.24		
October	77	7.43	9.31		
November	89	7.25	9.39		
December	84	7.28	9.33		
January, 16	78	7.42	9.33		
February	63	7.36	9.35		
March	63	7.30	9.30		
Overall		**7.38**	**9.31**		

- **Features of Protein and Lactose test is not available in present milk testing machine**

9.14. Reproduction performance of buffaloes calving during period 2015-16

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (Months)	40.0±0.61 (56)					
Average Service Period (Days)		184±20.85 (26)	149.9±16.32 (26)	109.3±10.21 (18)	118.6±16.24 (18)	145.3±9.2 (88)
Average Dry Period (Days)		176.5±18.65 (26)	149.9±13.66 (26)	139.8±11.9 (18)	126.06±11.01 (18)	150.8±7.7 (88)
Av. Calving Interval (Days)		493.4±20.72 (26)	459.3±16.29 (26)	416.9±9.94 (18)	(18)	453.3±9.2 (88)

9.14.1 Reproduction performance of buffaloes since inception of Network project.

Year	AFC (Months)	S P (days)	D P (days)	C I (days)
2001-02	41.6 (31)	137±09.0 (83)	133 (83)	445±09.0 (83)
2002-03	42.0 (58)	132±08.0 (90)	132 (90)	440±08.0 (90)
2003-04	41.6 (59)	138±09.0 (78)	136 (78)	443±09.0 (78)
2004-05	43.0 (39)	155±10.1(89)	146 (89)	463±10.3 (89)
2005-06	42.6 (58)	167±10.9 (72)	157 (72)	474±10.7 (72)
2006-07	39.9 (57)	165±14.7 (58)	160 (58)	478±14.3 (58)
2007-08	40.8(43)	165±11.2 (74)	150 (74)	458±11.1 (74)
2008-09	39.7 (69)	172±11.8 (70)	172 (70)	489±16.3 (70)
2009-10	41.1 (52)	170±14.0 (76)	163 (76)	478±14.1 (76)
2010-11	41.1 (47)	191±13.7 (71)	170 (71)	500±13.7 (71)
2011-12	39.7 (43)	136±20.24 (48)	150 (48)	464±23.1 (48)
2012-13	39.6 (52)	126±10.80 (75)	151(75)	436±10.9 (75)
2013-14	39.8(42)	127±10.6(67)	159(67)	446±8.53(67)
2014-15	39.9 (36)	112±7.89(88)	138(88)	420±8.09(88)
2015-16	40.0 (56)	145.3±(9.17)88	150.8±7.73(88)	453±9.21(88)

9.15 Month wise milk production and disposal during the period 2015-16

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	27334.9	23311.5	3227.23	-
May	23682.1	20479.5	2512.83	-
June	20863.1	18008.5	2246.93	-
July	23073.4	19120.0	3276.35	5.0
August	24603.6	20119.5	3759.99	7.5
September	26211.7	20977.0	4466.25	5.0
October	31748.1	25737.0	5079.89	6.5
November	32672.5	26446.0	5267.87	7.0
December	35350.1	29178.0	5135.48	7.0
January, 16	35357.4	30249.5	4072.07	6.0
February	32166.5	27498.5	3727.10	4.0
March	32717.0	27933.5	3826.57	4.0
Total	**345780.4**	**289058.5**	**46598.62**	**52.0**

9.16 Feed and fodder purchased / sold and offered to animals during the period 2015-16
Information not provided

Month	Type of fodder/feed	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
April, 15	Green				
	Dry				
	Silage				
	Concentrate				

9.17 Milking performance of herd during the period 2015-16

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	104	39	143	73	8.67	6.28
May	99	40	139	71	7.62	5.42
June	95	47	142	67	7.28	4.81
July	101	49	153	67	7.48	4.90
August	99	48	147	67	8.05	5.35
September	106	45	151	68	8.23	5.67
October	116	41	157	74	8.84	6.54
November	123	40	163	75	8.17	5.79
December	123	41	164	75	9.25	6.93
January, 16	120	33	153	78	9.53	7.46
February	123	34	157	78	9.04	7.07
March	122	37	159	76	8.63	6.60
Overall	**110**	**41**	**151**	**72**	**8.51**	**6.22**

9.17.1 Milking performance since inception of Network project

Year	***Iin milch***	***No. dry***	***Total***	***% in Milk***	***Wet Av (kg)***	***Herd Av (kg)***
2001-02	86	38	124	69	6.85	4.82
2002-03	106	38	144	73	6.56	4.83
2003-04	106	37	143	74	6.35	4.70
2004-05	100	47	147	67	6.86	4.65
2005-06	114	46	160	71	6.85	4.84
2006-07	119	48	167	71	6.20	4.40
2007-08	102	54	156	65	6.73	4.46
2008-09	122	44	166	73	6.91	5.03
2009-10	110	58	168	65	7.00	4.66
2010-11	98	43	141	70	7.11	4.93
2011-12	84	40	124	68	7.74	5.30
2012-13	90	49	139	65	8.26	5.34
2013-14	94	52	146	64	8.25	5.32
2014-15	99	41	140	71	8.48	5.98
2015-16	110	41	151	72	8.51	6.22

9.18 Bull wise daughters born during the period 2015-16

Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lactation
63	05	05	04
25	05	07	09
27	15	11	07
991	05	06	08
113	05	02	07
03	05	03	05
R-3	02	03	-
251	07	05	-
245	05	03	-
181	03	03	-
252	04	04	-
254	07	06	-
168	03	01	-
R-1	-	01	-
Total	73	60	40

9.19 Bull wise daughters completing 1st lactation during the period 2015-16

Bull No.	Daughter No.	Date of birth	Date of calving	First lact. 305 day or less milk yield(kg)	Total yield/ L.L	Remarks
63	322	23-12-11	26-02-15	2421	2421/293	
63	318	04-12-11	26-02-15	1867	1867/293	
25	281	28-06-11	17-01-15	2155	2237/333	
25	298	16-09-11	11-12-14	2183	2348/351	
25	263	03-01-11	24-09-14	2594	2594/275	
25	276	24-05-11	26-07-14	2345	2345/306	
25	296	10-09-11	16-07-14	1964	1964/309	
25	314	24-11-11	30-05-15	1788	1788/265	
25	216	21-07-10	13-10-14	2912	3327/403	
27	300	27-09-11	29-11-14	2785	3102/370	
27	328	14-01-12	07-03-15	2009	2009/278	
27	278	13-06-11	02-09-14	2196	2898/444	
27	307	27-10-11	04-11-14	2196	2196/276	
27	308	08-11-11	16-08-14	2169	2217/321	
27	282	30-06-11	06-09-14	2253	2445/362	
27	327	08-01-12	04-04-15	1461	1461/223	
991	270	20-03-11	26-01-15	2605	2699//324	
991	287	20-07-11	26-10-14	3089	3708/404	
991	299	19-09-11	15-07-15	1192	1192/169	
991	329	16-01-12	16-03-15	784	784/108	
991	280	25-06-11	01-09-14	2405	2412/333	
991	290	08-08-11	26-09-14	2440	2656/364	
991	284	16-07-11	19-05-15	1947	1947/268	
113	252	09-11-10	19-07-14	2850	3232/384	
113	247	24-10-10	06-02-14	2512	3068/430	
113	267	26-02-11	17-11-14	2587	2587/284	
113	271	31-03-11	10-09-14	2801	2801/294	

113	277	30-05-11	18-09-14	1893	2173/372	
113	283	30-06-11	02-10-14	2829	2909/323	
03	291	20-08-11	13-12-14	2092	2092/292	
03	306	25-10-11	26-11-14	2441	2678/352	
03	251	08-11-10	18-08-14	2311	2311/276	
03	220	25-07-10	05-09-14	2020	2208/371	
03	333	13-03-12	24-03-15	1462	1462/291	

9.20 List of breeding / young bulls as on 31.03.2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best lact.305or days less yield (kg)	Semen doses available	Remarks
1	991	28-09-07	535	452	3038	1815	
2	25	04-01-08	535	540	3039	955	
3	168	14-11-09	802	965		122	
4	226	13-10-10	719	828	3979	10	Semen quality poor
5	252	12-05-11	891	900	3743	292	
6	254	02-06-11	916	60	2655	657	
7	298	07-12-11	828	930	3974	50	
8	308	21-01-12	81	806	3089	-	
9	312	04-02-12	940	881	3317	-	
10	336	19-08-12	822	900	3348	-	

9.21: Target Achieved during the year 2015-16

Sr. No.	Trait	Target	Achieved (2015-16)
1.	Av. Age at first service (months)	24	Less than 24(months)
2.	Av. age at first calving	40	40.0
3.	Av. age for initiating training of bulls (months)	18	26
4.	Av. age at first collection	30	---
5.	Av. service period	130	145
6.	Calf mortality (0-3 months)	5%	6.55
7.	Wet average	8.0	8.51
8.	Herd average	>4.5	6.22

Success Story:

Sardar Roop Singh, Vill. Rasida (Tohana) is a progressive farmer and known for rearing good quality livestock (Horses, Sahiwal Cattle and Nili-Ravi B**uffalo)**. ICAR-CIRB scientists visited the farm in 2012 and observed valuable and precious Nili-Ravi buffaloes germplasm (Herd size about 30-35 buffaloes), but breeding bull was not of good quality, might be due to the effect of inbreeding in small herd size, because the Nili-Ravi herd was maintained since last 50-60 years. Through discussion, Sardar Roop Singhji, convinced for replacing the breeding bull and requested from CIRB for superior quality breeding bull for breeding their buffaloes and also for other farmers of the area through natural breeding. ICAR-CIRB-Nabha given one elite bull in January 2013. Bull was accustomed to the village/farm condition in 3 to 4 months and started natural breeding from July 2013. Presently, 26 progenies of superior quality (heifers, young males and calves) are standing at Sardar Roop Singh farm. He appreciated the guidance, scientific inputs and support given by the CIRB-Hisar / Nabha for revitalizing his Nili-Ravi buffalo herd and created his interest to conserve and improvement of Nili-Ravi buffalo. He also decided not to sale the heifers born from Bull No. 891 CIRB, Nabha, but step by step planned to sale older dams to maintained herd strength to 30-35 elite buffaloes. Roop Singhji planning to purchase another Nili-Ravi breeding bull from CIRB, Nabha and nine heifers (≥ two years) born from Bull No. 891 attained maturity and will be bred with the bull to be provided from CIRB, Nabha to avoid inbreeding.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Expenditure as per AUC		Receipts (ICAR Share)	Balance
Total	ICAR Share		ICAR Share	State Share		
19.2970	19.2970	19.2970	19.2970	-	-	-

Herd Performance

Herd strength at the centre was 491 including 227 breedable buffaloes (>2.0 years). Number of young males was 138 out of which 7 were breedable bulls. Total 150 calvings were reported during the year out of which 73 were male and 73 were female and four still births. Calf mortality (0-3 months) was 2.38 % (4/168) indicating good calf management at the centre. Conception rate was 37.59 % and it need to be improved. 14890 doses of semen produced during 2015-16, 1073 doses used for AI/testing purpose and the centre has sold 16460 frozen semen doses to developmental agencies and farmers. Average lactation milk yield (kg) and 305 or less day lactation milk yield was 2564±57.8 kg (n=110) and 2471±49.3 kg (n=110), respectively. Average lactation length also improved to 305 days from last year (303 days). Reproductive performance viz. Age at first calving, Service Period, Dry Period and Calving Interval were 40.0 (n=56) months, 145.3±9.17 (n=88) days, 150.8±7.73 (n=88) days and 453.3±9.21 (n=88) days respectively. The wet and herd averages were 8.51 (n=110) and 6.22 (n=151) with 72 % animals in milk. Overall the performance of the centre is good. Improve herd average of 6.22, which is better than even wet average of 2006-07 and shows a quantum jump of as much as 1.8 kg/d from herd average of same previous year. First three sets of test bulls were **evaluated and proven bulls identified for nominating mating. Sustain improvement in** productive performance, especially herd average, which indicates better reproduction as well, but calving interval registered an increase of 33 days, which need to be checked. MoU with Punjab Animal Husbandry Department for frozen semen production. 21 bulls were sold to the AHD Punjab on book value and 4 bulls were distributed to Udaipur Rajsthan under TSP programme. The AHD Punjab will supply 3000 semen doses from each of these bulls to CIRB.

Targets achieved during 2015-16

S. No	Trait	Target	Achieved	
			2015-16	204-15
1.	Av. Age at first service (months)	24 months (300 kg. B. wt.)	< 24months	-
2.	Av. Age at first calving	40 months	40.0	39.9
3.	Av. Age for initiating training of bulls (months)	18 months (350 kg. B. wt.)	26	-
4.	Av. Age at first collection	30 months (400 kg. B. wt.)	--	-
5.	Av. Service period	130 days	145	112
6.	Calf mortality (0-3 months)	≤ 5%	6.55 %	0.68
7.	Wet average	≥ 8.5 kg	8.51 kg.	8.48
8.	Herd average	≥ 5.5 kg	6.22 kg.	5.98

Recommendations:

The semen and bulls to be distributed in the breeding tract of Nili Ravi with the help of AH Department of Punjab.

Elite mating with the proven bulls of I, II and III set should be carried out at farm.

JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH (GUJARAT)

1. Name of center : Cattle Breeding Farm,
Junagadh Agricultural University, Junagadh.

2. Project Code : 18-3 / 97-ASR - II dt. 29 / 03 / 2001

3. **Project Title :** Network Project on Buffalo Improvement (Jaffarabadi)

4. Date of Start : 01/ 04 / 2001

5. Objectives : As per NWP(BI)

6. Technical Program: The technical programme of the project for the year 2015-16 was carried out as per the approved mandate both at the station as well as in field. Frozen semen doses of seven bulls (7 bulls of set 3) were used at the station as well as in the field in varying numbers. The semen doses of 3rd set of bulls had to be used to meet the demand of the field centres The progress of the station and the field has been presented in the report. Besides Eleven ongoing centres,Porbandar, Gundala and Chanchakvad Center had to be closed as the Operter Shifted to Other place. All the breedable females of the station were allotted to new set of Seven bulls. They are being breed as per the allotment. Collection and freezing of semen from bulls of set 2 has been discontinued from 2014-15 and frozen semen doses of the new (3rd set) is being used for breeding females., both in field as well as at station. The performance of the station herd has been given in tables 9.1 to 9.21. The overall reproductive performance was satisfactory with respect to fertility, AFC, Service period, Dry period and Calving interval. Targets were fulfilled in terms of Service Period, Wet average and Calf mortality (Table 9.14,9.17.1 & 9.4). Figure for and Herd average is closer to the given target However, the target given for Wet Average achieved for Jaffrabadi breed.

7. Financial Statement: **Budget Head: 2305/03 Year: 2015-16**

Item / Head	Grant (Rs.)		
	Allotted	**Expenditure**	**Balance**
A. Recurring			
Pay & Allowances	1500000	322432	1177568
TA	100000	6727	93273
Contingency	3300000	3299779	221
Anim. Purch.	0	0	0
Total	4900000	3628938	1271062
B. Non-recurring	700000	497627	202373
Total	700000	497627	202373
Total	**5600000**	**4126565**	**1473435**

8. Staff Position (Present and revised) (2015-16)

No	Desig. & No. of posts Sanctioned	Name of the person employed	Dt. of joining	Total time spent	Remarks
1.	Assoc.Prof.	Vacant			
2	Asstt,Res.Sci.				
3	Lab Tech	A.P.Patel	03-01-09		

Herd performance:

9.1 Herd Strength During the Period 4 / 2015 to 3 / 2016

Category		Addition			Disposal			
Sr. No.		OB	B	T	D	T	S	CB
Female								
1.	Female Calves below 3 months	6	21	0	2	19		6
2.	Female Calves 3-12 months	8		19		14		13
3.	Heifers 1-2 years	28		14		24		18
	>2 years	81		24		11	7	87
4.	Buffaloes in Milk	38		53		48		43
5.	Buffaloes Dry P/NP	43		48		42	5	44
	Sub Total	**204**	**21**	**158**	**2**	**158**	**12**	**211**
Male								
1.	Male Calves below 3 months	6	31	0	2	25	1	9
2.	Male Calves 3-12 months	13		25	1	17		20
3.	Male 1-2 years	29		17	1	15	16	14
	Above 2 years	17		15		0	13	19
4.	Breeding bulls	18		0		0	2	16
5.	Bullocks	00		0		0		0
6.	Teasers	01		0		0		1
	Sub Total	**84**	**31**	**57**	**4**	**57**	**32**	**79**
	Grand Total	**288**	**52**	**215**	**6**	**215**	**44**	**290**

OB = Opening Balance D = Deaths S = Sale
B = Births T = Transfer CB = Closing Balance

9.2. Calving Statistics During the Period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepses		Still Birth		Abortion		Overall	
	No.	%	No	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	2	6.5	1	4.8									3	5.4
May	1	3.2	1	4.8	1	100							3	5.4
June	1	3.2	0	0.0									1	1.8
July	1	3.2	3	14.3			1	50					5	8.9
August	1	3.2	2	9.5									3	5.4
September	3	9.7	2	9.5									5	8.9
October	3	9.7	1	4.8									4	7.1
November	5	16.1	4	19.0			1	50					10	17.9
December	5	16.1	1	4.8							1	100	7	12.5
January, 16	6	19.4	2	9.5									8	14.3
February	2	6.5	1	4.8									3	5.4
March	1	3.2	3	14.3									4	7.1
Overall	**31**	100	**21**	100	**1**	**100**	**2**	**100**	**0**	**0**	**1**	**100**	**56**	**100**

Sex ratio Male : Female

9.3. Disposal of Animals During the Period 4/2015 to 3/2016

Sr.No.		Surplus	Repd. Problem	Weak & Old	Death	Experimental purposes	Total
Female							
1	Calves 0-3 Months				2		**2**
2	Calves >3-12Months						**0**
3	Heifers 1-2 year						**0**
	>2 years	7					**7**
4	Buffaloes in milk						**0**
5	Buffaloes Dry P/NP	5					**5**
	Sub Total	**12**			**2**		**14**
Male							
1	Calves 0-3 Months	1			2		**3**
2	Calves >3-12Months	0			1		**1**
3	Male 1-2 year	16			1		**17**
	Male >2 years	13					**13**
4	Breeding Bulls	2					**2**
5	Bullock	0					**0**
6	Teasers	0					**0**
	Sub Total	**32**			**4**		**36**
	Grand Total	**44**			**6**		**50**

9.4 Monthwise Mortality During the Period 4/2015 to 3/2016

Month		Female						Male					Overall Herd
		0-3	3-6	6-12	1-2 Yrs.	Above 2 Yrs.	Overall Female	0-3	3-6	6-12	Above 1Year	Overall Male	
Overall Av.	No.	54	55	98	203	174	584	91	83	118	50	342	926
	Died	2	0	0	0	0	2	2	0	1	1	4	6
	%	3.70	0.00	0.00	0.00	0.00	0.34	2.20	0.00	0.85	2.00	1.17	0.65

Calf mortality (0-3 months) was 6.25 percent (4/64)

9.5. Causes of Mortality (quarterwise) During the Period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :				
B. Digestive System :				
1.Septicaemia&Toxaemia		1	1	
2.Gastroenteritis			1	
C. Circulatory				
D. Others				
1.Chronic debility		2		
2.Milk Fever		1		
Total	**-**	**4**	**2**	**-**

9.6 Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	No. of Animals		Screening	No. of Animals		No. of Animals Treated for Parasitism
	Available	Inoculated		Tested	Results	
FMD	All Herd in Month of May-2015					Regular Quarterly Deworming is Carried out
HS						
BQ						
RP						
Brucellosis	29 Female Buffalo Calf					
TB			Total Herd	242	-ve	
JD			Total Herd	242	-ve	

9.7 Female Conception Rate During the Period 4/2015 to 3/2016

Month	Heifer									First Calver									Multiparous									**Overall**		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	**I**	**C**	**CR**
Jan-15	2	1	50.0	1	1	100	0	0	0.0	1	1	100	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	**4**	**3**	**75.0**
Feb-15	8	2	25.0	1	1	100	0	0	0.0	1	1	100	0	0	0.0	0	0	0.0	3	2	66.7	1	1	100	0	0	0.0	**14**	**7**	**50.0**
Mar-15	2	2	100	0	0	0.0	0	0	0.0	2	2	100	0	0	0.0	0	0	0.0	2	1	50.0	1	1	100	0	0	0.0	**7**	**6**	**85.7**
Apr-15	0	0	0.0	0	0	0.0	0	0	0.0	3	3	100	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	**3**	**3**	**100.0**
May-15	3	1	33.3	2	1	50.0	1	1	100	1	1	100	0	0	0.0	0	0	0.0	1	1	100	0	0	0.0	0	0	0.0	**8**	**5**	**62.5**
Jun-15	2	1	50.0	1	1	100	0	0	0.0	3	0	0.0	3	2	66.7	1	1	100	2	1	50.0	1	0	0.0	1	1	100	**14**	**7**	**50.0**
Jul-15	3	1	33.3	2	2	100	0	0	0.0	2	0	0.0	2	1	50.0	1	1	100	0	0	0.0	1	1	100	0	0	0.0	**11**	**6**	**54.5**
Aug-15	0	0	0.0	0	0	0.0	0	0	0.0	2	2	100	0	0	0.0	0	0	0.0	1	1	100	0	0	0.0	0	0	0.0	**3**	**3**	**100.0**
Sep-15	0	0	0.0	0	0	0.0	0	0	0.0	3	3	100	0	0	0.0	0	0	0.0	3	2	66.7	1	0	0.0	1	1	100	**8**	**6**	**75.0**
Oct-15	1	1	100	0	0	0.0	0	0	0.0	2	2	100	0	0	0.0	0	0	0.0	2	1	50.0	1	0	0.0	1	1	100	**7**	**5**	**71.4**
Nov-15	1	0	0.0	1	0	0.0	1	1	100	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	**3**	**1**	**33.3**
Dec-15	0	0	0.0	0	0	0.0	0	0	0.0	1	1	100	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	**1**	**1**	**100.0**
Total	**22**	**9**	**40.9**	**8**	**6**	**75.0**	**2**	**2**	**100**	**21**	**16**	**76.2**	**5**	**3**	**60.0**	**2**	**2**	**100**	**14**	**9**	**64.3**	**6**	**3**	**50.0**	**3**	**3**	**100**	**83**	**53**	**63.9**

I = No. of Animal as Inseminated C = No. of Animalas Conceived CR% = Conception Rate%

9.8.Bullwise Conception Rate During the Period 4/2015 to 3/2016

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	Nayan	10	6	60.0
2.	Ronak	7	5	71.4
3.	Abhijit	6	4	66.7
4.	Alok	4	2	50.0
5.	Madhav	4	2	50.0
Total		**31**	**19**	**59.62**

9.9. Bull Wise Semen Stock

Bull No.	Set No.	Opening Balance	Semen Prouduced /Received	Consumption for AI/ Supplied	Balance
Bhagro	I	6845	0	0	6845
Laxman	I	3417	0	0	3417
Nagraj	I	3339	0	0	3339
	Sub Total	**13604**	**0**	**0**	**13604**
Moti	II	11897	4176	145	15928
Haresh	II	1790	0	0	1790
Sunder	II	3014	0	0	3014
Raja	II	2839	2946	0	5785
Dhinglo	II	6665	5281	5	11941
Bholenath	II	1839	0	0	1839
	Sub Total	**28044**	**12403**	**150**	**40297**
Nayan	III	902	10541	80	11363
Madhav	III	2563	8820	1160	10223
Abhijeet	III	1043	6546	995	6594
Ronak	III	0	**6812**	**2550**	**4262**
Alok	III	0	**1290**	**40**	**1250**
Girish	III	0	**2383**	**780**	**1603**
	Sub Total	**4508**	**36392**	**5605**	**35295**
	TOTAL	**47177**	**48795**	**5760**	**90212**

9.10. Body Weight Since Inception of Network

Year	Birth	3 Month	6 Month	12 Month	18 Month	24 Month	At AFC
Female							
2001-02	29.68	71.03	106.62	165.62	218.68	257.13	461.72
2002-03	31.05	73.08	110.65	160.56	215.41	259.42	460.93
2003-04	31.24	72.92	114.55	162.36	216.72	261.49	457.68
2004-05	29.69	70.53	112.38	161.55	215.69	258.64	457.23
2005-06	32.01	69.40	106.28	155.30	216.57	260.35	458.40
2006-07	33.60	70.72	105.70	154.10	217.24	259.69	449.89
2007-08	32.23	71.70	110.80	169.85	229.80	288.40	566.78
2008-09	30.74	69.25	107.35	166.20	228.69	290.84	559.17
2009-10	29.61	68.20	105.40	164.80	230.70	294.51	555.17
2010-11	29.65	68.90	106.25	232.17	-	443.89	592.45
2011-12	33.60	82.00	142.00	237.40	308.70	444.50	586.00
2012-13	31.80	67.60	100.20	158.10	268.60	362.20	565.40
2013-14	32.40	73.40	122.4	172.1	266.90	314.33	---
2014-15	33.60	87.75	118.20	200.00	269.78	315.14	650.00
2015-16	33.12	87.75	117.45	197.66	269.80	316.17	649.70

Breeding Males							
2001-02	30.19	74.82	118.02	172.61	231.95	273.14	--
2002-03	32.23	75.02	120.05	165.82	222.32	270.57	--
2003-04	32.09	74.71	121.34	166.80	228.53	273.92	--
2004-05	31.90	71.24	109.54	164.12	225.14	272.80	--
2005-06	34.71	72.61	106.61	152.57	223.47	269.62	--
2006-07	33.98	71.72	107.05	156.70	222.29	265.23	--
2007-08	36.62	73.14	114.00	171.60	234.50	289.35	--
2008-09	32.51	70.10	110.58	169.30	236.72	295.32	--
2009-10	32.59	70.75	109.52	170.10	238.89	297.32	--
2010-11	29.97	69.93	139.00	285.40	360.00	412.33	--
2011-12	30.90	85.00	178.00	255.30	357.00	409.00	--
2012-13	33.00	79.80	120.90	158.60	289.40	375.80	--
2013-14	33.60	78.00	118.40	160.00	234.60	329.75	--
2014-15	33.47	86.00	108.90	171.50	232.83	331.90	--
2015-16	32.30	85.17	111.90	172.40	231.00	332.00	769.79

9.11Production Performance of Buffaloes Completing Lactation During 4/15 to 3/2016

Lact. No.	No.of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	300-day Milk Yield (kg)	Av. Peak Yield
1st	13	2387.4 ± 150.8	371.8 ± 21.5	2056.7 ± 114.3	11.5 ± 0.7
2nd	8	2121.8 ± 218.9	313.8 ± 34.6	1966.3 ± 213.3	13.7 ± 1.2
3rd	7	2534.5 ± 283.0	325.4 ± 31.0	2314.7 ± 205.6	14.5 ± 1.1
4th	9	1875.0 ± 161.7	281.2 ± 25.1	1816.8 ± 143.1	12.9 ± 0.6
5th	3	2021.6 ± 260.2	319.3 ± 60.0	1890.0 ± 329.7	13.9 ± 3.4
6th	6	2191.6 ± 218.2	319.3 ± 18.5	2099.0 ± 211.7	14.3 ± 1.4
7th &Above	2	1566.1 ± 81.6	218 ± 12.0	1566.1 ± 81.6	11.4 ± 0.8
Overall	48	2187.0 ± 86.9	322.1 ± 12.3	2008.7 ± 72.0	13.1 ± 0.4

Figures in Parenthesis Indicate Number of Observations

9.12 Production Performance of Buffaloes Since Inception of Network

Year	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak Yield
2001-02	1945.58 (38)	303.29 (38)	1813.72 (38)	12.77 (38)
2002-03	2028.18 (39)	358.46 (39)	1793.85 (39)	09.32 (39)
2003-04	2534.80 (41)	406.00 (41)	2069.10 (41)	11.30 (41)
2004-05	2122.40 (36)	316.00 (36)	2020.80 (36)	11.80 (36)
2005-06	1957.57 (41)	311.00 (41)	1771.96 (41)	10.34 (41)
2006-07	1953.42 (38)	343.00 (38)	1695.00 (38)	10.20 (38)
2007-08	2026.88 (39)	338.00 (39)	1807.05 (39)	10.53 (39)
2008-09	2009.28 (29)	318.28 (29)	1769.90 (29)	11.26 (29)
2009-10	1837.65 (46)	382.72 (46)	1779.61 (46)	11.43 (46)
2010-11	2134.70 (44)	317.70 (44)	2098.30 (44)	11.36 (44)
2011-12	2383.08 (30)	332.20 (30)	2083.92 (30)	12.23 (30)
2012-13	2007.00 (39)	352.00 (39)	1737.00 (39)	9.70 (39)
2013-14	1709.30 (33)	305.20 (33)	1629.20 (33)	10.30 (33)
2014-15	2396.70 (37)	379.10 (37)	2095.70 (37)	11.80 (37)
2015-16	2187.0 + 86.9 (48)	322.1 + 12.3 (48)	2008.7 + 72.0 (48)	13.1 + 0.4 (48)

9.13 Average Milk Components During the Period (Month-Wise) 4/2015 to 3/2016

Month	Animal in milk (N)	Av. Fat (%)	SNF	Protein	Lactose
April, 2015	45	8.40			
May	36	8.10			
June	30	8.30			
July	36	8.20			
August	25	8.40			
September	30	8.30			
October	33	8.10			
November	30	8.40			
December	34	8.70			
January, 16	35	8.80			
February	33	8.50			
March	36	8.40			
Overall	**403**	**8.38**			

9.14 Reproduction Performance of Buffaloes During the Period 4/2015 to 3/2016

Traits		1	2	3	4	5	6	7& Above	Overall
Average Age at calving(Months)	N	11							11
	X	1454 (47.8mth.)							1454 (47.8mth.)
	SE	53.1							53.1
Average Service Period (Day)	N		11	7	6	9	3	6	42
	X		152.5	178.4	187.8	202.4	83.7	145.5	158.4
	SE		18.8	48.5	60.6	43.9	65.7	51.5	48.2
Average Dry period(Day)	N		11	7	6	9	3	6	42
	X		146.5	198.4	147.3	197.7	128.7	161.5	163.4
	SE		13.1	25.3	26.2	25.7	26.3	18.7	22.6
Average Calving Interval (Day)	N		11	7	6	9	3	6	42
	X		462.5	488.4	497.8	512.4	393.7	455.5	468.4
	SE		18.8	48.5	60.6	43.9	65.7	51.5	48.2

9.14.1 Reproduction Performance of Buffaloes Since Inception of Network

Year	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
2001-02	46.84 (13)	159.41 (33)	166.50 (33)	496.36 (33)
2002-03	47.02 (15)	155.12 (33)	179.66 (33)	465.79 (33)
2003-04	57.71 (3)	205.00 (23)	213.00 (23)	513.00 (23)
2004-05	59.44 (12)	225.00 (34)	195.00 (33)	539.00 (34)
2005-06	59.97 (16)	194.00 (45)	218.00 (45)	459.00 (45)
2006-07	55.57 (11)	188.00 (32)	267.00 (35)	499.00 (32)
2007-08	59.53 (07)	263.08 (24)	238.83 (24)	568.33 (24)
2008-09	59.52 (11)	302.69 (41)	249.62 (41)	543.67 (41)
2009-10	54.28 (20)	149.52 (45)	194.20 (45)	463.35 (45)
2010-11	52.66 (11)	127.40 (35)	168.70 (35)	436.80 (35)
2011-12	49.28 (06)	186.09 (23)	161.83 (23)	484.48 (23)
2012-13	49.31 (10)	174.00 (42)	464.58 (42)	217.16 (42)
2013-14	48.00 (24)	144.67 (33)	206.51 (43)	523.16 (43)
2014-15	46.60 (05)	140.43 (30)	176.53 (30)	450.43 (30)
2015-16	47.82 (11)	150.40 (42)	163.40 (42)	468.40 (42)

9.15 Monthwise Milk Production and Disposal During the Period 4/2015 to 3/2016

Month	Total Milk Produced (kg)	Disposal		
		Liquid Milk	Calf Feeding	Expt.
April, 2015	10270.5	10051.0	57.0	162.5
May	10021.0	9990.0	31.0	
June	9469.5	9467.5	2.0	
July	9189.5	9138.5	51.0	
August	7457.0	7389.0	68.0	
September	6492.5	6492.5	0.0	
October	7929.5	7882.5	47.0	
November	8726.5	8660.5	66.0	
December	9361.5	9286.5	75.0	
January,16	9780.0	9698.0	82.0	
February	9707.5	9645.5	62.0	
March	10119.0	10069.0	50.0	
Total	**108524**	**107770.5**	**591.0**	**162.5**

9.16 Feed and Fodder purchased and Offered to Animals During the Period 4/2015 to 3/2016

	Quarter	Qty. prod. at farm (kg)	Qty. Purchased(kg)	Actually fed kg	Balance (kg)
I	Green	511567		511567	
	Dry	42670	2333	45003	
	Silage				
	Concentrate		60330	60330	
II	Green	380833		380833	
	Dry	68634	9813	78447	
	Silage				
	Concentrate		66703	66703	
III	Green	437300		437300	
	Dry	23698	43020	66718	
	Silage				
	Concentrate		63963	63963	
IV	Green	360067		360067	
	Dry	72152	43733	115885	
	Silage				
	Concentrate		69392	69392	
Total	Green	1689767		1689767	
	Dry	207154	98899	306053	
	Silage				
	Concentrate		260388	260388	

9.17 Milking Performance during the period 4/2015 to 3/2016

Month	Animal in Milk	Animal Dry	Total Animal	% in Milk	Wet Av.(kg)	Herd Av.(kg)
April, 2015	39	43	82	47.6	8.8	4.2
May	37	45	82	45.1	8.7	3.9
June	34	48	82	41.5	9.3	3.8
July	37	45	82	45.1	8.0	3.6
August	29	54	83	34.9	8.3	2.9
September	26	59	85	30.6	8.3	2.5
October	29	57	86	33.7	8.8	3.0
November	37	49	86	43.0	7.9	3.4
December	41	44	85	48.2	7.4	3.6

January,16	47	39	86	54.7	6.7	3.7
February	45	40	85	52.9	7.7	4.1
March	43	44	87	49.4	7.6	3.8
Overall	**37.0**	**47.3**	**84.3**	**43.9**	**8.1**	**3.5**

9.17.1 Milking performance since inception

Month	Animal in Milk	Animal Dry	Total Animal	% in Milk	Wet Av.(kg)	Herd Av.(kg)
2001-02	40.00	31.00	71.00	56.19	5.44	3.01
2002-03	32.00	34.00	66.00	48.89	7.19	3.55
2003-04	26.00	35.00	61.00	41.26	8.03	3.30
2004-05	32.00	34.83	66.89	44.65	7.91	3.96
2005-06	33.00	46.58	79.58	41.80	7.45	3.08
2006-07	34.00	44.92	78.92	42.27	7.31	3.11
2007-08	30.75	40.58	71.42	42.87	7.52	3.21
2008-09	25.25	43.12	69.41	39.05	6.81	2.44
2009-10	37.63	47.93	85.56	43.85	6.46	2.85
2010-11	35.14	33.92	69.06	50.32	7.27	3.62
2011-12	27.67	20.08	47.75	58.03	6.91	4.06
2012-13	34.00	51.33	85.33	39.78	6.73	2.67
2013-14	34.00	47.42	81.42	40.64	6.90	2.83
2014-15	33.00	48.75	81.75	40.22	7.38	3.01
2015-16	37.00	47.30	84.30	43.90	8.10	3.50

9.18 Bull wise daughters born during the period 4/2015 to 3/2016

Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lact	Last Lact.
GHANSHYAM			1	
GAJANAN	0	7	1	
KHEMLO	0		5	
BHAGARO	0	1	2	
RAJA	0	1		
RANA	0	1		
NAGRAJ	2	1	4	
MOTI	2			
SUNDAR	4			
ASHOK	0			
LAXMAN	3			
BHOLENATH	2			
HARESH	1			
DHINGALO	3			
NAYAN	4			
TOTAL	21	11	13	

9.19 Bull wise daughters completing 1st lactation during the period 4/2015 to 3/2016

Sr. No.	Bull No.	Daughter No.	Date of birth	Date of calving	First lact. 305 day or less milk yield (kg)	Total yield	L.L	Remarks
1	KHEMALO	18/10	11-08-2010	20-02-2014	1641.6	3240.5	585	
2	KHEMALO	18/09	26-07-2009	18-06-2014	2081.0	2081.0	282	
3	KHEMALO	23/09	15-08-2009	12-07-2014	2422.2	3005.9	398	
4	NAGRAJ	33/09	10-09-2009	14-07-2014	1796.8	1847.4	331	
5	KHEMALO	13/10	31-07-2010	14-07-2014	2221.7	2848.6	414	
6	NAGRAJ	35/09	13-09-2009	28-07-2014	1761.5	1914.1	349	
7	NAGRAJ	50/10	20-10-2010	16-08-2014	2272.0	2640.7	357	
8	NAGRAJ	41/09	21-09-2009	02-09-2014	1264.2	1264.2	285	

9	KHEMALO	61/09	23-10-2009	12-09-2014	2899.6	3030.4	349	
10	BHAGARO	56/08	20-12-2008	05-10-2014	2248.9	2308.1	321	
11	BHAGARO	22/08	16-09-2008	04-12-2014	1571.4	2000.5	479	

9.20 List of breeding / young bulls as on 31-3-2016

Sr. No.	Bull No	Set	Date of Birth	Dam	Sire	Dams best lact.300days or less yield (kg)	Semen doses available	Remarks
1	Bhagro	I	Purchased	----	----	20 lit/d	6845	
2	Laxman	I	16-10-03	Laxmi	Subiraj	3738.0	3417	
3	Nagraj	I	18-12-02	Nagari	Rupnath	2957.0	3339	
4	Moti	II	Purchased	--	--	>3000 litter	15928	
5	Haresh	II	08-02-04	Hitad	Hemalo	2884.0	1790	
6	Sunder	II	13-07-05	Sundari	Lailano	2732.0	3014	
7	Raja	II	08-05-04	Ranjita	Subiraj	2948.0	5785	
8	Dhinglo	II	Purchased	--	--	>3000 litter	11941	
9	Bholenath	II	Purchased	--	--	>3000 litter	1839	
10	Nayan	III	12-06-10	Mira	Nagraj	4120.9 litter	11363	
11	Madhav	III	19-09-10	Manisha	Nagraj	3895.8	10223	
12	Abhijeet	III	Purchased	Hedi		3184.2	6594	
13	Ronak	III	10-07-11	Rita	Gajanan	3140.0	4262	
14	Alok	III	Purchased			>3500	1250	
15	Girish	III	18-08-2013	Grishma	Dhingalo	3028.0	1603	

9.21 Target Achieved During the year 2015-2016

Sr No.	Trait	**Target**	**Achieved**
1.	Av. Age at first service (months)	22mth.	35.6 mth
2.	Av. Age at first calving	42mth.	47.8 mth
3.	Av. Age for initiating training of bulls (months)	-	--
4.	Av. Age at first collection	-	--
5.	Av. service period	140days	158.4 days
6.	Calf mortality (0-3 months)	≤ 5%	6.25
7.	Wet Average	≥ 7.5 kg	8.10 lit
8.	Herd Average	≥ 4.0 kg	3.50 lit

JANUGADH AGRICULTUAL UNIVERSITY, JUNAGADH (Field Unit)

F 1. Herd Strength of Registered Females at Different Field Centres during 2015-2016

Sr No.	Centres/ Village	OB	Addition			Deduction		
			New Reg.	Birth	Purchase	Sold	Death	CB
1	SHEDHAYA	1781	146	33				1927
2	PIPALI	2157	239	58				2396
3	LOEJ	11061	532	201				11593
4	MOVANA	4664	392	83				5056
5	SURVA	2827	259	87				3086
6	MAND LIKPUR	3135	262	71				3397
7	SHERADI	1897	291	63				2188
8	HADMDIYA	691	83	35				774
9	KHORASA	491	184	23				675
10	ODADAR	716	894	178				1610
11	CHANCHAKVAD	150	89	35				239
12	GONDAL	0	4	0				4
	Total	**29570**	**3375**	**867**				**32945**

F 2. Status of Breedable Females at Different Field Unit Centres during 2015-2016

Centres/ Village	Heifers > 3 years		Buffalo (NP)		Buffalo pregnant	
	Total	Pregnant	In Milk	Dry	In Milk	Dry
SHEDHAYA	288				18	0
PIPALI	248				20	0
LOEJ	1500				10	19
MOVANA	514				12	0
SURVA	315				5	0
MAND LIKPUR	225				6	0
SHERADI	64				9	0
HADMDIYA	25				5	0
GUNDALA	0				0	0
KHORASA	0				0	0
ODADAR	0				0	0
Total	3179				85	19

F 3. Monthly AI at Different Field Unit Centers During Period 4/2015 to 3/2016

MONTH	Centre/Village												Total
	SHEDHAYA	PIPALI	LOEJ	MOVANA	SURVA	MANDLIKPUR	SHERADI	HADMADIYA	KHORASA	ODADAR	CHACHAKVAD	GONDAL	
April, 15	10	28	45	18	14	15	24	7	13	71	11	0	256
May	10	29	42	30	15	19	19	5	11	70	9	0	259
June	10	27	38	28	17	11	20	5	14	66	9	0	245
July	12	14	54	18	23	10	22	4	14	78	8	0	257
August	14	16	28	28	17	15	26	6	14	101	4	0	269
September	14	14	38	29	25	26	28	4	23	80	9	0	290
October	12	27	44	38	23	28	24	8	14	91	12	0	321
November	14	27	43	32	23	33	23	9	25	75	8	0	312
December	12	14	60	49	26	27	28	9	14	82	5	0	326
January, 16	12	15	55	36	28	27	28	7	14	70	6	2	300
February	12	14	41	43	21	25	26	9	14	54	5	2	266
March	14	14	44	43	27	26	23	10	14	56	3	0	274
Total	146	239	532	392	259	262	291	83	184	894	89	4	3375

F 4. Bull-wise AI at Different Field Unit Centers During the Period 4/2015 to 3/2016

Months	ABHIJIT	MADHAV	RONAK	GIRISH	NAYAN	Total
April, 15	0	194	0	0	62	256
May	0	249	0	0	10	259
June	90	145	0	0	10	245
July	225	32	0	0	0	257
August	250	19	0	0	0	269
September	24	30	236	0	0	290
October	30	12	279	0	0	321
November	0	8	304	0	0	312
December	0	0	326	0	0	326
January,16	0	0	300	0	0	300
February	0	0	148	118	0	266
March	0	0	28	246	0	274
Total	619	689	1621	364	82	3375

F 5. Monthwise Conception at Different Field Unit Centers During the Period 4/2015 to 3/2016

Month	Village / Centre											
	SHEDHAYA		PIPALI		LOEJ		MOVANA		SURVA		MANDLIKPUR	
	P	E	P	E	P	E	P	E	P	E	P	E
April, 15	8	6	16	12	50	45	18	23	18	15	12	13
May	7	7	13	14	39	28	3	6	18	9	8	7
June	6	6	6	8	33	28	8	12	17	10	12	16
July	5	5	14	14	25	20	7	11	8	6	6	9
August	5	5	14	15	21	21	13	17	9	6	11	8
September	5	5	12	15	17	21	14	14	10	7	5	6
October	7	5	6	8	28	26	8	10	13	10	4	6
November	8	6	6	10	14	14	11	17	10	7	7	8
December	8	6	6	8	18	20	14	15	14	11	11	15
January,16	7	5	10	17	22	22	14	24	11	12	14	14
February	7	7	8	19	21	22	12	20	11	12	15	18
March	6	6	7	7	30	30	19	30	11	15	11	16
Total	79	69	118	147	318	297	141	199	150	120	116	136

Cont..

Month	Village / Centre										Total	
	SHERADI		HADMADIYA		KHORASA		ODADAR		CHACHAKVAD			
	P	E	P	E	P	E	P	E	P	E	P	E
April, 15	12	14	12	14	22	20	79	65	13	16	260	243
May	11	13	6	8	13	19	52	49	7	8	177	168
June	12	16	8	11	13	13	61	55	3	6	179	181
July	10	14	3	4	5	8	34	37	5	6	122	134
August	8	11	2	3	4	7	30	41	4	5	121	139
September	10	10	2	3	6	8	24	28	2	7	107	124
October	10	12	2	2	7	7	27	37	3	5	115	128
November	11	15	2	4	6	8	31	56	2	2	108	147
December	13	15	2	2	9	14	27	41	3	6	125	153
January,16	10	14	3	5	6	8	39	52	3	9	139	182
February	8	15	4	5	9	16	31	45	3	5	129	184
March	12	16	4	5	6	8	29	53	2	3	137	189
Total	127	165	50	66	106	136	464	559	50	78	1719	1972

F 6. Monthwise Calving at Different Field Unit Centers During the Period 4/2015 to 3/2016

Month	Village / Centre											
	SHEDHAYA		PIPALI		LOEJ		MOVANA		SURVA		MANDLIKPUR	
	M	F	M	F	M	F	M	F	M	F	M	F
April, 15	3	2	4	3	12	13	0	0	7	7	7	7
May	3	2	6	4	12	17	6	8	7	6	9	7
June	5	3	5	4	12	13	5	4	8	7	9	8
July	4	4	6	4	26	23	13	11	11	7	13	6
August	5	3	4	4	31	17	13	11	11	10	9	10
September	4	3	10	6	24	20	15	13	12	11	13	11
October	4	4	9	6	29	35	10	11	12	8	6	7
November	5	3	9	7	26	18	8	10	8	9	4	5
December	5	2	8	5	24	13	2	1	7	9	2	3
January,16	3	2	3	3	15	14	3	4	7	7	5	4
February	2	3	6	5	12	9	5	2	5	3	3	1
March	3	2	7	7	8	9	6	8	4	3	6	2
Total	46	33	77	58	231	201	86	83	99	87	86	71

Cont..

Month	Village / Centre										Total	
	SHERADI		HADMADIYA		KHORASA		ODADAR		CHACHAKVAD			
	M	F	M	F	M	F	M	F	M	F	M	F
April, 15	7	5	0	1	0	0	6	6	0	0	46	44
May	7	4	2	1	0	0	21	20	0	0	73	69
June	7	3	1	2	0	0	24	19	0	0	76	63
July	5	9	1	3	0	0	12	16	0	3	91	86
August	7	5	2	3	0	0	27	29	2	6	111	98
September	7	4	7	6	0	0	29	18	2	7	123	99
October	8	6	2	4	7	5	29	17	2	6	118	109
November	6	6	5	7	11	7	30	13	2	6	114	91
December	7	4	4	2	8	5	24	12	2	4	93	60
January,16	4	8	4	4	6	4	25	14	1	1	76	65
February	4	5	2	1	0	0	9	7	1	2	49	38
March	4	4	1	1	2	2	12	7	2	0	55	45
Total	73	63	31	35	34	23	248	178	14	35	1025	867

M= Male F= Female

F 7. Bull-wise Conception at Different Field Unit Centers During the Period 4/2015 to 3/2016

Month	Bull Name												Total	
	MADHAV		ABHIJEET		RONAK		HARESH		NAYAN		RAJA			
	P	E	P	E	P	E	P	E	P	E	P	E	P	E
April, 15	0	0	0	0	0	0	13	16	147	130	100	97	260	243
May	0	0	0	0	0	0	0	0	156	155	21	13	177	168
June	1	2	0	0	0	0	0	0	161	169	17	10	179	181
July	93	101	0	0	0	0	0	0	29	33	0	0	122	134
August	116	134	0	0	0	0	0	0	5	5	0	0	121	139
September	61	70	41	49	0	0	0	0	5	5	0	0	107	124
October	7	11	108	117	0	0	0	0	0	0	0	0	115	128
November	3	2	105	145	0	0	0	0	0	0	0	0	108	147
December	8	10	15	9	102	134	0	0	0	0	0	0	125	153
January,16	3	9	10	20	126	153	0	0	0	0	0	0	139	182
February	3	5	0	0	126	179	0	0	0	0	0	0	129	184
March	0	0	0	0	137	189	0	0	0	0	0	0	137	189
Total	295	344	279	340	491	655	13	16	503	497	138	120	1719	1972

F 8. Bull-wise Calving at Different Field Unit Centers During the Period 4/2015 to 3/2016

Month	Bull Name													
	BHOLENATH		DHINGLO		HARESH		NAYAN		RAJA		MADHAV		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April, 15	14	15	32	29	0	0	0	0	0	0	0	0	46	44
May	14	18	59	51	0	0	0	0	0	0	0	0	73	69
June	0	0	76	63	0	0	0	0	0	0	0	0	76	63
July	0	0	83	79	8	7	0	0	0	0	0	0	91	86
August	0	0	16	16	56	48	0	0	39	34	0	0	111	98
September	0	0	10	6	22	16	0	0	91	77	0	0	123	99
October	0	0	0	0	0	0	0	0	118	109	0	0	118	109
November	0	0	0	0	2	6	60	44	52	41	0	0	114	91
December	0	0	0	0	0	0	83	51	10	9	0	0	93	60
January,16	0	0	0	0	0	0	69	58	7	7	0	0	76	65
February	0	0	0	0	0	0	9	7	0	0	40	31	49	38
March	0	0	0	0	0	0	3	2	0	0	52	43	55	45
Total	28	33	276	244	88	77	224	162	317	277	92	74	1025	867

F 9. Bull-wise Live Female Progeny at Different Field Unit Centers (0-6 month) as on 3/2016

Centres	BHOLENATH	DHINGALO	HARESH	NAYAN	RAJA	MADHAV	TOTAL
SHEDHAYA				12	4		16
PIPALI				15	6	12	33
LOEJ				30	53	15	98
MOVANA				5	21	10	36
SURVA					33	6	39
MAND LIKPUR				13	7	2	22
SHERADI				18	6	9	33
HADMDIYA				13	4	2	19
KHORASA				16	5	2	23
ODADAR				35	21	14	70
CHANCHAKVAD			6	5	6	2	19
Total	0	0	6	162	166	74	408

F 10. Bull-wise Live Female Progeny at Different Field Unit Centers (6-12 month) as on 3/2016

Centres	BHOLENATH	DHINGALO	HARESH	NAYAN	RAJA	MADHAV	TOTAL
SHEDHAYA	0	11	0	0	6	0	17
PIPALI	0	25	0	0	0	0	25
LOEJ	30	44	0	0	29	0	103
MOVANA	0	23	17	0	7	0	47
SURVA	0	27	10	0	11	0	48
MAND LIKPUR	0	27	2	0	20	0	49
SHERADI	0	21	9	0		0	30
HADMDIYA	2	2	3	0	9	0	16
KHORASA	0	0	0	0	0	0	0
ODADAR	1	64	21	0	22	0	108
CHANCHAKVAD	0	0	9	0	7	0	16
Total	33	244	71	0	111	0	459

F 11. Bull-wise Live Female Progeny at Different Field Unit Centers (1-3 years) as on 3/2016

Centres	GAJANAN	NAGRAJ	LAXMAN	HARESH	MOTI	SUNDAR	BHOLENATH	DHINGALO	Total
SHEDHAYA	0	19	21	0	9	17	20	2	**88**
PIPALI	3	32	0	0	11	15	23	4	**88**
LOEJ	0	245	34	0	2	77	98	0	**456**
MOVANA	4	118	0	0	23	0	27	0	**172**
SURVA	0	67	10	0	28	0	34	0	**139**
MAND LIKPUR	0	80	0	0	64	0	74	0	**218**
SHERADI	0	40	0	0	18	4	25	9	**96**
HADMDIYA	0	18	1	0	7	1	9	0	**36**
KHORASA	0	24	2	7	14	0	8	0	**55**
ODADAR	0	0	0	0	0	0	30	0	**30**
Total	**7**	**643**	**68**	**7**	**176**	**114**	**348**	**15**	**1378**

F 12. Bull-wise Live Female Progeny at Different Field Unit Centers (> 3years) as on 3/2016

Set - I

Centres	BHAGRO	LAXMAN	NAGRAJ	Total
SHEDHAYA	59	110	48	217
PIPALI	63	52	13	128
LOEJ	250	690	8	948
MOVANA	140	197	0	337
SURVA	135	114	0	249
MANDLIKPUR	155	28	0	183
SHERADI	38	16	0	54
HADMDIYA	12	10	0	22
Total	852	1217	69	2138

Set – II

Centres	HARESH	MOTI	SUNDAR	Total
SHEDHAYA	17	0	0	17
PIPALI	29	26	0	55
LOEJ	56	82	21	159
MOVANA	22	43	0	65
SURVA	0	27	0	27
MANDLIKPUR	0	21	7	28
SHERADI	0	5	0	5
HADMDIYA	3	0	0	3
Total	127	204	28	359

F 13. Bull-wise Daughters Calved at Different Field Units During 2015-2016

Nil

F 14. Bull-wise Daughters Recorded at Different Field Units During 2015-2016

S N	Centre	Name of owner	Village	Date of birth	Daughter no	Sire no	Date of Calving	AFC
1	LOEJ	GOVIND KANA	KANKASH	09-03-2009	10.9579/ 7497	ASHOK	10-04-2013	49
2	LOEJ	RANA PITHA	MENEJ	12-11-2009	5869	ASHOK	12-07-2015	68
1	LOEJ	RAM NAGA NANDANIYA	NAGICHANA	18-04-2008	13254	BHAGRO	08-01-2012	45
2	LOEJ	MALDE LUMBHA	LOEJ	29-07-2009	10.9157/7483	BHAGRO	08-03-2013	43
3	LOEJ	HARDASH PARBAT BARIYA	NAGICHANA	03-11-2009	13105	BHAGRO	02-01-2015	62
1	LOEJ	JAGMAL SOMAT	MENEJ	10-09-2009	3101	GAJANAND	01-08-2014	59
1	LOEJ	DAUD IBRAHIN	ZARIYAVADA	29-12-2010	7455	HARESH	29-10-2014	46
2	LOEJ	ARASHI HAJA	BAMANVAD	27-12-2010	1783	HARESH	05-07-2015	54
1	LOEJ	NATHA UKA	RAHIJ	29-08-2009	13077	LAXMAN	20-05-2013	45
2	LOEJ	VEJA LAXMAN	RAHIJ	25-12-2010	12984	LAXMAN	25-11-2014	47
3	LOEJ	RAM KARSAN SOLANKI	LOEJ	11-06-2010	395	LAXMAN	10-12-2014	54
4	LOEJ	LAXMAN RANA	LOEJ	10-11-2011	5842	LAXMAN	03-05-2015	42
5	LOEJ	HARDASH PARBAT BARIYA	NAGICHANA	02-10-2010	366	LAXMAN	23-02-2015	53
6	LOEJ	MOHAN MULA	DIVASA	01-01-2010	7416	LAXMAN	08-08-2015	67
7	LOEJ	VIRA ARSI	KANKASH	22-12-2011	380	LAXMAN	23-07-2015	43
8	LOEJ	RAM VEJA	BAMANVAD	10-12-2010	13564/351	LAXMAN	10-06-2015	54
9	LOEJ	VIRAM KESAR	RAHIJ	14-06-2010	524	LAXMAN	18-09-2015	63
1	LOEJ	SOMAT RANA	LOEJ	06-12-2009	8807	RUPESH	23-01-2015	62
2	LOEJ	NAGA ARJAN	KANKASH	19-11-2009	11045	RUPESH	26-02-2014	51

F 15. Bull-wise AI, Conception, Calving and Daughters Retained Till Completion of Milk Recording During the Year

Bull Name	Set No.	Total AI		Conception		Calving				Daughters Retained Up to				
						Total		Female		1 year	2 year	3 year	Calv.	Complete Recording
		Pro.	Cur.year (15-16)	Pro.	Cur.year (15-16)	Pro.	Cur.year (15-16)	Pro.	Cur.year (15-16)					
Ranjeet	I	243		108(179)	00	72	00	34	00	00	00	00		
Rupesh	I	777		429(661)	00	251	00	116	00	00	00	00		2
Ashok	I	2120		732(1217)	00	715	00	346	00	00	00	00		2
Manek	I	741		300(482)	00	376	00	182	00	00	00	00		
Bhagro	I	4747		1902(3830)	00	1840	00	877	00	00	00	40		3
Gajanan 4/02	I	929		502(781)	00	486	00	245	00	03	04	00		1
Nagraj	I	4016		1822(2452)	00	799	00	768	00	289	388	15		
Laxman	I	5343		2682(4503)	00	2735	00	1349	00	00	67	546		9
A		18916	0	8477(14105)	00	7274	00	3917	00	292	459	601		17
Haresh	II	1245		660(1082)	13(29)	437	165	211	77	4	03	00		2
Moti	II	2459		1041(2129)	00	1007	00	472	00	3	265	181		
Sunder	II	719		371(539)	00	329	00	151	00	46	77	28		
Raja	II	1443		724(1378)	138(258)	594	594	277	277	00	00	00		
Dhinglo	II	1089		493(1005)	00	552	520	259	244	15	00	00		
Bholenath	II	2557		1235(1988)	00	843	61	404	33	371	00	00		
B		9512	0	4524(8121)	151(287)	3762	1340	1774	631	439	345	209		2
Nayan (07/10)	III	1061	82	503(1000)	503(1000)	386	386	162	162	00	00	00		
Abhijit (A1/10)	III	619	619	279(619)	279(619)	00	00	00	00	00	00	00		
Madhav(37/10)	III	692	689	295(639)	295(639)	166	166	74	74	00	00	00		
Alok	III	0	0	00	00	00	00	00	00	00	00	00		
Bhairav(17/12)	III	0	0	00	00	00	00	00	00	00	00	00		
Ronak(09/11)	III	1621	1621	491(1146)	491(1146)	00	00	00	00	00	00	00		
Girish	III	364	364	00	00	00	00	00	00	00	00	00		
C		4357	3375	1568(3404)	1568(3404)	552	552	236	236	00	00	00		0
Gr.Total (A+B+C)		32785	3375	14569(25630)	1719(3691)	11588	1892	5927	867	731	804	810	85	19

Performance of FPT Programme Since Inception

Duration	AI	Pregnancies	CR%	Calvings	Females Born	Daughters Recorded	Av. AFC (mth)	Av. Milk Yield (kg/day)	Daughters Available for Recording
2005-06	15					-	-	-	-
2006-07	966					-	-	-	-
2007-08	2169	1196(1907)	62.72	468	223	-	-	-	-
2008-09	2961	1141(2065)	55.25	944	455	-	-	-	-
2009-10	3070	1563(2676)	58.41	1429	694	10	55	10.9	-
2010-11	3457	1613(2651)	60.84	1333	666	7	53	10.8	-
2011-12	3738	1603(2918)	54.93	1538	729	2	42	10.8	-
2012-13	4067	1776(3627)	48.97	1684	810	-	-	-	-
2013-14	4121	1957(4021)	48.70	1688	801	-	-	-	-
2014-15	4781	2150(4271)	50.34	1564	731	-	-	-	-
2015-16	3375	1719(3691)	46.57	1892	867	-	-	-	85
Overall	32720	14718(27827)	52.89	12540	5976	19	53	10.9	85

AI, Conception, Calving and Daughters Retained (Set wise)

Set - I	**Bull No.**								
	Ranjit	Rupesh	Ashok	Manek	Bhagro	Gajanan	Nagraj	Laxman	Total
AI	243	777	2120	741	4747	929	4016	5343	18916
Pregnancies	108	429	732	300	1902	502	1822	2682	8477
Daughters Born	34	116	346	182	877	245	768	1349	3917
Daughters Calved	08	35	65	27	176	38	165	180	694

Set - II	**Bull No.**						
	Haresh	Moti	Sundar	Raja	Dhingalo	Bholenath	Total
AI	1245	2459	719	1443	1089	2557	9512
Pregnancies	660	1041	371	724	493	1235	4524
Daughters Born	211	472	151	277	259	404	1774
Daughters Calved	36	72	26	47	56	76	313

Set - III	**Bull No.**							
	Nayan	Abhijit	Madhav	Alok	Bhairav	Ronak	Girish	Total
AI	1061	619	692	00	00	1621	364	4357
Pregnancies	503	279	295	00	00	491	00	1568
Daughters Born	162	00	74	00	00	00	00	236
Daughters Calved	00	00	00	00	00	00	00	00

Bottlenecks

1. Sanctioned staff for the project has not been filled since inception.
2. Field AI workers needs to be paid for the data on AI/PD/Milk being collected and supplied to CBF.
3. Field villages are scattered at far distance for which separate staff for monitoring is needed.
4. Allocated funds are insufficient for the project implementation satisfactorily.
5. Building / Buffalo sheds needs urgent renovations.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Allocation as per R E 2015 – 16		Released	Expenditure as per AUC		Closing
Total	ICAR Share	ICAR Share	ICAR Share	State Share	Balance
56.00	42.00	42.00	3094924	10.31641	11.05076

Herd Performance

Herd strength was 290 heads comprising of 174 breedable buffaloes and 16 breeding bulls. 52 calving reported during the report period out of which 31 were male, 21 were female, one dystokia and one abortion also reported. Calf mortality (0-3 months) was 6.25 percent (4/64) at the centre. Buffaloes were inseminated with seven bulls and conception rate was 63.90 % (53/83). During the year 48795 doses of semen were produced and 5760 doses were sold to the farmers and other developmental agencies. 90212 frozen semen doses are available at the centre. Production performance indicated by Average lactation milk yield and 305 day or less day milk yield were 2099.7 kg (n=48) and 1958.5 kg (n=48). The reproductive traits showing improvement during last three years viz. AFC, SP, DP and calving interval were 47.82 months (n=11), 158.40 days (n=42), 163.40 days (n=42) and 468.40 days (n=42), respectively. The wet and herd average were 8.1 kg and 3.5 kg. The wet average is best since inception. Only 44.0 percent buffaloes were in milk during the report period

Field Unit:

3375 AI's were performed utilization the semen of 5 bulls of III set in 12 centers/villages. Total 1719 conceptions took place with conception rate of 46.57 % (1719/3691).

Targets achieved during 2015-16

S. No	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	28 months	-	--
2.	Av. Age at first calving	42 months	47.82 months	40.6
3.	Av. Age for initiating training of bulls (months)	20 months	-	32
4.	Av. Age at first collection	32 months	-	40
5.	Av. Service period	130 days	158.40 days	140.43
6.	Calf mortality (0-3 months)	≤ 5%	6.25	2.38
7.	Wet average	≥ 7.5 kg	8.1 Lit.	7.38
8.	Herd average	≥ 4.0 kg	3.5 Lit.	3.01

Recommendations:

1. Early selection of male calves for breeding bull to be followed so that surplus ones are disposed off at the earliest.
2. There are only 44% animals in production during year. The production performance needs to be improved by improving calving interval, However wet average was best so far.
3. One set should be used for a fixed duration only i.e 24 month cycle.
4. Old bull, born upto 2004 having sufficient frozen semen doses may be disposed off/distributed/sold immediately.
5. Field recording has been initiated and it should be strengthened by engaging contract workers & provide incentives to the farmers. All the bulls should be used in equal proportion in the field.
6. Bull and total herd to be ear tagged and ear tag number to be used for identification in place of names.
7. Sanctioned position be filled up
8. Contractual staff/worker be paid from recurring contingency only.

ZONAL AGRICULTURAL RESEARCH STATION, KOLHAPUR

1. Name of Center **:** Zonal Agricultural Research Station, Sub-Montane Zone, NARP, Shenda Park, Kolhapur-416 012

2. Project Code **:** 18-3/97-ASR-II, dated 29/3/2001, ADG (AP & B), ICAR, New Delhi

3. Project Title **:** Network Project on Buffalo Improvement (Pandharpuri)"

4. Date of Start / Sanction **:** 29 / 03 / 2001.

5. Objectives: To undertake genetic improvement and conservation of Pandharpuri buffaloes

6. Technical Programme :

"Network Project on Buffalo Improvement (Pandharpuri)" is being implemented at Zonal Agricultural Research Station (ZARS), Shenda Park, Kolhapur. Pandharpuri buffaloes of superior genetic potential are maintained on farm for production of test breeding bulls. These breeding bulls are used for production of frozen semen straws. Semen freezing laboratory is established at ZARS, Kolhapur. From each breeding bull 8-10 thousand semen straws are produced. These semen straws are used for inseminations in field for Pandharpuri and non-descript buffaloes. First lactation milk production of daughters born is expected to be recorded from each bull for evaluation of Sire.

At present about 4.0 lakhs semen straws has been freezed and about 2.70 lakhs semen straws are utilized in field for insemination.

7. Financial Statement: 75: 25 (ICAR: State Govt.)

Sr. no.	Head of Account		Sanctioned grants (Rs.)	Expenditure (Rs.)
1.	Pay and allowances		42,00,000/-	39,55,101/-
2.	TA		1,00,000/-	44,494/-
3.	Contingencies	Recurring	36,00,000/-	35,00,000/-
		Non- recurring	2,00,000/-	-
		Total (Rs.)	**81,00,000/-**	**74,99,595/-**

8. Staff Position during the year: 2015-16

Sr. no.	Name of Sanctioned Posts	No. of posts	Filled/Vacant
1	Associate Professor (Animal Breeding)	01	Filled
2	Assistant Professor (Veterinary Science)	01	Filled
3	Technical Assistant (Lab.)	01	Filled

9.1 Herd Strength during the Period 4/2015 to 3/2016

Category		Addition		Disposal				
Sr. No.		OB	B	T	D	T	S	CB
	Female							
1.	Calves 0 – 3 months	01	12	-	-	13	-	13
2.	Calves >3 – 12 months	04	-	20	-	12	-	12
3.	Heifers							
	1 – 2 years	02	-	05	-	03	-	04
	> 2 years	12	-	06	-	05	-	13
4.	Buffaloes in Milk	10	-	02	-	-	-	12
5.	Buffaloes Dry P /NP	13	-	-	-	-	03	10
	Sub Total	**42**	**12**	**33**	**-**	**33**	**03**	**51**
	Male							
1.	Calves 0 – 3 months	01	05	-	01	05	-	-
2.	Calves >3 – 12 months	05	-	05	-	05	-	05
3.	Male above							
	1 – 2 years	03	-	05	-	05	-	03
	> 2 years	14	-	05	-	-	06	13
4.	Breeding bulls	12	-	-	-	-	06	06
5.	Bullocks	-	-	-	-	-	-	-
6.	Teasers	-	-	-	-	-	-	-
	Sub Total	**35**	**5**	**20**	**01**	**20**	**12**	**27**
	Grand Total	**77**	**17**	**53**	**01**	**53**	**15**	**78**

OB = Opening Balance D = Deaths S = Sale
B = Births T = Transfer CB = Closing Balance

9.2. Calving Statistics during the period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	-	-	-	-					-	-			-	-
May	-	-	01	05.0					-	-			01	05.0
June	01	05.0	01	05.0					-	-			02	10.0
July	-	-	-	-					-	-			-	-
August	-	-	-	-					-	-			-	-
September	-	-	01	05.0					-	-			01	05.0
October	-	-	03	15.0					-	-			03	15.0
November	01	05.0	04	20.0					01	05.0			06	30.0
December	02	10.0	02	10.0					01	05.0			05	25.0
January,16	-	-	-	-					01	05.0			01	05.0
February	01	05.0	-	-					-	-			01	05.0
March	-	-	-	-					-	-			-	-
Overall	**05**	**25.0**	**12**	**60.0**					**03**	**15.0**			**20**	**100**

Sex ratio Male : Female 29:71

9.3. Disposal of Animals during the Period 4/2015 to 3/2016

Sr. No.		Surplus	Rep. Problem	Weal & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months	-	-	-	-	-	-
2.	Calves >3 – 12 months	-	-	-	-	-	-
3.	Heifers 1 – 2 years > 2 years	- -	- -	- -	- -	- -	- -
4.	Buffaloes in Milk	-	-	-	-	-	-
5.	Buffaloes Dry P /NP	-	03	-	-	-	03
	Sub Total	-	03	-	-	-	03
	Male						
1.	Calves 0 – 3 months	-	-	-	01	-	01
2.	Calves >3 – 12 months	-	-	-	-	-	-
3.	Male 1 – 2 years > 2 years	-	-	-	-	-	-
4.	Breeding bulls	12	-	-	-	-	12
5.	Bullocks	-	-	-	-	-	-
6.	Teasers	-	-	-	-	-	-
	Sub Total	12	-	-	-	-	13
	Grand Total	12	03	-	01	-	16

9.4. Monthwise Mortality during the Period 4/2015 to 3/2016

Calf mortality was 5.26 percent (1/19)

9.5. Causes of Mortality (quarterwise) during the period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :				
1. Pheumo-Enteritis	-	-	-	-
2. Broncho-Pheumonia	-	01	-	-
B. Digestive System :	-	-	-	-
C. Circulatory	-	-	-	-
D. Others				
Total	-	**01**	-	-

9.6 Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	No. of animals Available	Inoculated	Screening	No. of animals Tested	Results	No. of animals treated for Parasitism etc.	
FMD (Twice)	140	140	TB	60	-ve	20/07/2015	74
HS	73	73	JD	60	-ve	27/01/2016	77
BQ	-	-	Brucellosis	60	-ve		
RP	-	-	Mastitis	-	-		
Brucellosis	-	-	IBR	-	-		
		Campylo-bacterilosis		18	-ve		
			Trichomoniasis	13	-ve		
TB							
JD							

9.7. Female Conception Rate during the Period 4/2015 to 3/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Jan. 15	2	1	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	50	3	3	100				**7**	**5**	**71.42**
Feb.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
March	1	-	00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	1	-	-	**3**	**1**	**33.33**
April	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	1	50	-	-	-	**6**	**1**	**16.66**
May	-	-	-	1	1	100	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	-	-	-	**2**	**2**	**100**
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
Aug.	1	-	-	-	-	-	-	-	-	1	1	100	1	1	100	-	-	-	2	1	50	2	1	50	1	1	100	**8**	**5**	**62.50**
Sep.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
Oct.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
Nov.	1	-	-	1	1	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**	**1**	**50.00**
Dec. 15	3	1	33.33	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	**5**	**2**	**40.00**
Total	**9**	**2**	**22.22**	**4**	**2**	**50.0**	**1**	**-**	**-**	**1**	**1**	**100**	**1**	**1**	**100**	**-**	**-**	**-**	**7**	**4**	**57.14**	**8**	**4**	**50**	**2**	**1**	**50**	**33**	**17**	**51.51**

I = No. of animals inseminated C = No. of animals conceived CR% = Conception rate%

9.8. Bull-wise Conception Rate During the period 4/2015 to 3/2016

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	PB-110	4	2	50.00
2.	PB-210	2	1	50.00
3.	PB-230	3	1	33.33
4.	PB-48	7	4	60.00
5.	PB-114	3	2	66.66
6.	PB-204	2	1	50.00
7.	PB-49	4	2	50.00
8.	PB-229	2	1	50.00
9.	PB-228	4	2	50.00
10.	PB-54	2	1	50.00
Total		33	17	51.51

9.9 Bull-wise Semen Stock

Sr. no.	Bull No.	Set no.	Opening balance as on 31-3-2015	Semen produced 1-4-2015 to 31-3-2016	Consumption for AI/ Supplied	Balance as on 31-3-2016
1	PB-101	I	4398	-	2725	1673
2	PB-102	I	1409	-	1409	-
3	PB-103	I	3320	-	3320	-
4	PB-108	I	4632	-	2532	2100
5	PB-110	I	3702	-	3104	598
6	PB-117	I	3415	-	3415	-
7	PB-118	I	6311	-	4336	1975
8	PB-119	I	4193	-	4193	-
9	PB-201	I	7410	-	5110	2300
10	PB-203	I	4680	-	3430	1250
11	PB-209	I	4029	-	2689	1340
12	PB-210	I	5364	-	3418	1946
13	PB-048	II	6550	-	4070	2480
14	PB-049	II	13000	-	10463	2537
15	PB-105	II	1789	-	1789	-
16	PB-106	II	9618	-	6619	2999
17	PB-123	II	4725	-	4725	-
18	PB-107	II	9815	-	7381	2434
19	PB-121	II	6015	-	6015	-
20	PB-114	II	10962	-	8019	2943
21	PB-120	II	9130	-	9130	-
22	PB-204	III	10305	-	8052	2253
23	PB-205	III	11235	-	8186	3049
24	PB-207	III	10120	-	8161	1959
25	PB-208	III	14020	-	11455	2565
26	PB-054	III	21445	-	19453	1992
27	PB-052	III	12095	-	8948	3147
28	PB-228	IV	9740	-	6727	3013
29	PB-229	IV	14560	-	11556	3004

Sr. no.	Bull No.	Set no.	Opening balance as on 31-3-2015	Semen produced 1-4-2015 to 31-3-2016	Consumption for AI/ Supplied	Balance as on 31-3-2016
30	PB-230	IV	11600	-	8611	2989
31	PB-062	IV	770	-	770	-
32	PB-232	IV	16990	-	13995	2995
33	PB-233	IV	8710	-	5665	3045
34	PB-234	IV	11130	-	8095	3035
35	PB-236	IV	2890	-	2890	-
36	PB-237	IV	11980	-	9025	2955
37	PB-067	V	11700		7700	4000
38	PB-068	V	7980		4600	3380
39	PB-238	V	2360		2360	-
40	PB-239	V	12880		7680	5200
41	PB-069	V	7660	2080	1000	8740
42	PB-072	V	9840	2200	3000	9040
43	PB-074	V	6840	1940	1700	7080
44	PB-241	V	8200	2360	2000	8560
45	PB-244	V	7000	2180	2000	7180
46	PB=080	VI	1220	4560	1000	4780
47	PB-246	VI	1380	5000	1000	5380
48	PB-248	VI	520	4160	-	4680
49	PB-251	VI	-	1560	-	1560
50	PB-252	VI	-	1400	-	1400
51	PB-255	VI	-	1460	-	1460
52	PB-258	VI	-	1290	-	1290
53	PB-265	VI	-	440	-	440
Total			**3,69,637**	**30,630**	**2,63,521**	**1,35,242**

1. Frozen semen straw production from 01-04-2015 to 31-03-2016 = 30,630
2. Frozen semen straws used for AI from 01-04-2015 to 31-03-2016 = 12,333 3.Pandharpuri
3. Pandharpuri buffalo breeding bulls sold for breeding purpose
   i. Bull calves sold to Government of Karnataka = 06
   ii.Breeding bulls sold to farmers for breeding purpose = 06

9.10 Body weights since inception of Network

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Heifer (n)	Adult (n)
Female								
2007-08	28.57 (7)	59.44 (8)	92.36 (2)	119.48 (1)	159.05 (5)	207.06 (12)	258.00 (7)	449.72 (36)
2008-09	29.43 (7)	59.78 (5)	94.82 (4)	119.14 (6)	165.10 (4)	212.50 (4)	242.00 (6)	462.23 (25)
2009-10	27.67 (6)	60.25 (12)	97.80 (10)	134.00 (5)	160.40 (5)	195.75 (4)	254.60 (5)	445.56 (23)
2010-11	27.17 (6)	59.20 (20)	92.32 (19)	117.60 (17)	156.00 (1)	184.60 (1)	249.32 (5)	441.52 (27)
2011-12	27.25 (1)	59.47 (4)	93.91 (6)	123.21 (6)	159.32 (6)	190.18 (6)	269.20 (9)	429.20 (19)
2012-13	28.50 (4)	57.75 (8)	91.50 (5)	130.00 (5)	160.22 (5)	188.20 (5)	238.20 (6)	422.35 (19)
2013-14	27.30 (4)	56.42 (7)	90.85 (7)	134.57 (7)	159.88 (7)	188.71 (7)	245.16 (3)	412.23 (22)

2014-15	28.11 (3)	56.73 (3)	89.46 (3)	134.21 (4)	160.72 (7)	189.16 (7)	240.12 (3)	426.34 (26)
2015-16	29.01 (12)	49.71 (3)	62.67 (3)	124.17 (4)	162.52 (7)	190.13 (7)	230.29 (6)	430.29 (26)
Male						**Young bulls**		
2007-08	34.75 (4)	61.89 (10)	88.29 (6)	117.24 (2)	170.09 (2)	218.29 (3)	274.00 (3)	498.24 (19)
2008-09	32.14 (7)	60.72 (9)	87.24 (7)	121.08 (7)	170.62 (4)	220.13 (2)	277.00 (6)	493.68 (27)
2009-10	29.64 (7)	60.21 (14)	94.92 (13)	136.29 (7)	161.30 (5)	190.80 (5)	270.50 (8)	482.60 (16)
2010-11	29.54 (13)	61.40 (10)	98.56 (9)	138.20 (10)	160.08 (8)	192.42 (8)	266.41 (7)	482.74 (19)
2011-12	28.53 (9)	60.10 (15)	93.33 (10)	136.22 (9)	160.16 (9)	191.60 (5)	280.52 (4)	480.50 (13)
2012-13	28.66 (9)	59.25 (25)	92.86 (22)	135.44 (18)	162.13 (18)	191.15 (8)	248.12 (6)	477.45 (12)
2013-14	29.60 (5)	58.90 (21)	95.10 (20)	137.35 (20)	161.74 (19)	190.26 (19)	251.25 (3)	452.28 (12)
2014-15	29.63 (9)	58.97 (7)	95.59 (7)	137.13 (7)	160.92 (5)	191.20 (6)	272.36 (9)	460.12 (22)
2015-16	27.90 (5)	48.16 (7)	65.14 (7)	129.15 (7)	165.33 (5)	193.17 (6)	280.22 (8)	447.22 (22)

9.11 Production performance of buffaloes completing their lactation during the period 4/2015 to 3/2016

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	1	1347.10	280	1347.10	6.5
2nd	2	1516.35	278	1516.35	7.3
3rd	1	1699.65	285	1699.65	7.8
4th	3	1565.20	280	1565.20	7.0
5th & above	3	1505.35	272	1505.35	7.2
Overall	**10**	**1525.56± 22.81**	**277.60± 2.92**	**1525.56± 22.81**	**7.10± 0.27**

Figures in parenthesis indicate number of observations

9.12 Production performance of buffaloes since inception of Network

Year	No. of Obs.	Av. Lact. yield (kg)	SE±	Av.Lact. Length (days)	SE±	305 or less days milk yield (kg)	SE±	Av. Peak yield (kg)	SE±
2007 – 08	12	1810.71	244.62	320.23	17.28	1617.64	178.62	8.02	1.39
2008 – 09	11	1625.09	171.51	314.49	10.06	1449.40	162.28	8.17	1.42
2009 – 10	10	1452.00	71.02	303.40	11.90	1335.60	102.16	8.30	1.27
2010 – 11	12	1336.93	24.16	279.60	3.35	1336.93	24.16	7.82	1.18
2011 – 12	12	1622.57	82.58	284.00	4.14	1622.57	82.58	7.20	0.27
2012 – 13	12	1442.25	58.37	266.00	3.93	1442.25	58.37	6.82	0.13
2013– 14	11	1491.36	87.35	284.00	13.36	1491.36	87.35	6.41	0.43
2014– 15	12	1421.34	22.78	277.75	2.36	1421.34	22.78	7.04	0.22
2015-16	10	1525.56	22.81	277.60	2.92	1525.56	22.81	7.10	0.27

9.13 Average Milk components during the period (Month-Wise) 4/2015 to 3/2016

Month	Animal in milk (N)	Av. Fat(%)	SNF	Protein	Lactose
April, 2015	10	8.15	9.84	3.37	4.93
May	11	8.21	9.80	3.32	4.96
June	11	8.20	9.85	3.30	4.94
July	09	8.14	9.80	3.29	4.97
August	07	7.82	9.87	3.42	4.98
September	07	7.89	9.92	3.38	4.73
October	11	8.04	9.81	3.22	4.43
November	11	8.06	9.81	3.45	4.79
December	14	8.09	9.82	3.63	5.46
January, 16	15	8.15	9.80	3.46	5.20
February	16	8.16	9.85	3.60	5.33
March	15	8.21	9.83	3.62	5.42
Overall	**137**	**8.09**	**9.83**	**3.43**	**5.06**

9.14. Reproduction Performance of Buffaloes During the Period 4/2015 to 3/2016

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (Months)	45.24 (1)	-	-	-	-	45.24 (1)
Average Service Period (Days)	-	150.11±4.95 (2)	156.67±2.92 (3)	169.25±1.97 (4)	97.50±2.26 (2)	149.65±8.07 (11)
Average Dry Period (Days)	-	172.23±2.95 (2)	185.52±3.57 (3)	190.20±1.92 (4)	108±3.58 (2)	171.25±9.69 (11)
Average calving Interval (Days)	-	465.16±4.99 (2)	478.25±2.41 (3)	480.25±2.27 (4)	410.50±4.59 (2)	464.28±7.34 (11)

9.14.1 Reproduction Performance of Buffaloes Since inception of Network.

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
2007 – 08	44.08 (2)	145.27 (15)	160.35 (15)	480.58 (15)
2008 – 09	43.28 (2)	125.18 (14)	140.60 (13)	455.09 (14)
2009 – 10	40.00 (1)	114.10 (15)	166.00 (15)	469.40 (15)
2010 – 11	43.11 (2)	128.38 (8)	157.94 (8)	437.34 (8)
2011 – 12	43.28 (2)	130.60 (10)	138.60 (10)	422.60 (10)
2012 – 13	42.16 (1)	135.60 (8)	151.00 (8)	417.23 (8)
2013– 14	43.26 (1)	136.54 (10)	159.63 (11)	443.63 (10)
2014-15	44.32 (2)	129.75 (10)	147.75 (10)	425.50 (10)
2015-16	45.24 (1)	149.65 (11)	171.25 (11)	464.28 (11)

9.15 Month wise milk production and disposal during the Period 4/2015 to 3/2016

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	1404.3	1320	84.3	-
May	1369.9	1305	64.9	-
June	1265.7	1112	153.7	-
July	1184.7	992	192.7	-
August	876.2	830	46.2	-
September	805	764	41.0	-
October	1022	861	161.0	-
November	1382	861	521.0	-
December	1953	1124.5	828.5	-
January, 16	2145.5	2076.5	69.0	-
February	1966.5	1761	205.5	-
March	1898.5	1805.5	93.0	-
Total	**17273.3**	**14812.5**	**2460.8**	-

Note: The sale price of milk during the year was Rs.38/- per litre

9.16 Feed and fodder purchased and offered to animals during the period 4/2015 to 3/2016

Quarter	Items	**Balance as on 01/04/15 (kg)**	**Produced at farm (kg)**	**Purchased (kg)**	**Actually fed (kg)**	**Balance on 31/03/16 (kg)**
I	Green	5000	24460	10000	39460	-
	Dry	59600	-	-	40750	18850
	Concentrate	11260	-	13580	19760	5080
II	Green	-	56700	-	56700	-
	Dry	18850	-	-	18850	-
	Concentrate	5080	-	11600	12910	3770
III	Green	-	44300	19800	64100	-
	Dry	-	-	11900	6520	5380
	Concentrate	3770	-	17850	16780	4840
IV	Green	-	10100	41000	50100	1000
	Dry	5380	-	19500	21780	3300
	Concentrate	4840	-	18850	18250	5440
Total	**Green**	**5000**	**135560**	**70800**	**210360**	**1000**
	Dry	**59600**	**-**	**31400**	**87900**	**3100**
	Concentrate	**11260**	**-**	**61880**	**67700**	**5440**

9.17. Milking performance during the period 4/2015 to 3/2016

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	10	13	23	44	4.80	2.40
May	11	13	24	46	4.50	2.25
June	11	13	24	46	3.73	2.25
July	9	15	24	38	3.73	2.10
August	7	15	22	47	4.00	2.20
September	7	15	22	47	3.83	2.10
October	11	11	22	50	4.02	2.10
November	11	12	23	48	4.20	1.71
December	14	09	23	61	4.50	2.74
January, 16	15	08	23	65	4.61	3.14
February	16	07	23	70	4.51	3.00
March	15	08	23	65	4.22	2.75
Overall	**11.42**	**11.58**	**23.00**	**49.00**	**4.22**	**2.39**

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2007-08	12.80	10.92	23.72	48.88	5.47	2.63
2008-09	11.83	08.17	20.00	59.17	5.13	3.02
2009-10	11.75	10.10	21.85	54.19	4.80	2.56
2010-11	08.83	12.10	20.93	47.28	4.30	2.13
2011-12	10.50	6.08	16.58	63.38	5.12	3.25
2012-13	10.00	6.50	16.50	60.00	5.00	3.00
2013-14	11.00	7.58	18.58	59.19	5.10	3.07
2014-15	7.33	15.08	22.42	33.00	4.57	2.12
2015-16	11.42	11.58	23.00	49.00	4.22	2.39

9.18 Bull wise daughters born during the period 4/2015 to 3/2016

Bull No.	**Total No. of daughters born**	**No. of daughters reaching A.F.C.**	**No. of daughters completing 1st Lact.**	**I lactation milk yield (kg.)**
PB- 48	2	2	2	1405
PB- 54	6	3	2	1374
PB-101	2	1	1	1669
PB-107	2	2	2	1378
PB-114	1	1	-	-
PB-120	1	-	-	-
PB-122	1	1	1	1244
PB-204	1	2	2	1360
PB-205	2	2	2	1201
PB-207	1	1	1	1163
PB-208	5	3	1	1251
PB-232	4	-	-	-
PB-233	2	-	-	-
PB-210	3	-		
Total	**33**	**18**	**13**	**1246.31**

9.19 Bull wise daughters completing 1st lactation during the period 4/2015 to 3/2016 : ---

9.20 List of breeding /young bulls as on 31-03-2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best lact.305 or days less yield (kg)	Semen doses available	Remarks
1	PB-246	30-09-2010	417	52	1831	5380	VI set
2	PB-248	16-11-2010	424	54	1878	3880	
3	PB- 080	23-02-2011	205	54	1638	4780	
4	PB-251	01-03-2011	406	54	1921	1560	
5	PB-252	05-09-2011	439	54	1614	1400	
6	PB-255	18-11-2011	424	54	1878	1460	
7	PB-258	19-12-2011	434	228	1506	1290	
8	PB-265	22-08-2012	437	232	1526	440	

9.21 Target achieved during the year 2015-16

S. N	Trait	Target	Achieved
1.	Av. Age at first service (months)	34	34.32
2.	Av. age at first calving	44	45.24
3.	Av. age for initiating training of bulls (months)	-	30.00
4.	Av. age at first collection	30	32.00
5.	Av. service period	130	149.65
6.	Calf mortality (0-3 months)	<5.0 %	5.88 %
7.	Wet average	6.00	4.22 kg
8.	Herd average	4.00	2.29 kg

10. Salient Research achievements:

1. The reproductive status of buffaloes and breeding bulls is good.
2. Pandharpuri buffalo breeding bulls are provided to Govt. Agencies and NGO's as per their demand.
3. Frozen semen straws of Pandharpuri buffalo breeding bulls are been provided to Government & NGO's agencies and Private AI workers as per their demand

FIELD REPORT

F. 1: Herd Strength of females at different field Unit Centers during 2015 -16

District	Center No.	Name of Center	Opening Balance	Additions	Deduction	Closing Balance
				New Reg. (Birth / Purchase)	Sold/ Death	
Kolhapur	1	Ajara & Chandgad	1372	045	086	1331
	2	Gadhinglaj & Bhudargad	318	105	142	281
	3	Karveer & Kagal	5591	1335	526	6400
	4	Hatkanangale & Shirol	959	108	443	624
	5	Panhala & Shahuwadi	453	116	092	477
	6	Radhanagari & Gaganbavda	159	045	033	171
Solapur	7	Akluj & Malsiras	2030	212	235	2007
Sangli & Satara	8	Islampur , Miraj & Koyana	073	148	151	070
Belgaum	9	Chikodi & Khanapur	345	135	108	372
Total			**11300**	**2249**	**1816**	**11733**

F. 2: Status of breedable females under field unit during 2015-16

District	Name of Center	Heifers > 3 years		Buffalo (NP)		Buffalo Pregnant		Total
		Total	Pregnant	In Milk	Dry	In Milk	Dry	
Kolhapur	Ajara & Chandgad	361	112	261	290	264	155	1331
	Gadhinglaj & Bhudargad	124	056	042	034	045	036	281
	Karveer & Kagal	2710	500	1202	448	1205	635	6200
	Hatkanangale & Shirol	205	050	202	045	200	072	724
	Panhala & Shahuwadi	229	058	036	040	102	070	477
	Radhanagari & Gaganbavda	082	016	026	016	023	024	171
Solapur	Akluj & Malsiras	1252	342	273	216	194	072	2007
Sangli	Islampur, Miraj & Koyana	055	015	025	035	025	045	170
Belgaum	Chikodi & Khanapur	096	022	125	049	052	050	372
Total		**5114**	**1171**	**2192**	**1173**	**2110**	**1159**	**11733**

F.3: Month wise AI by using frozen semen under field unit during 2015-16

District	Kolhapur						Solapur	Sangli	Belgaum	Total
Center / Month	Ajara & Chandgad	Gadhinglaj & Bhudargad	**Islampur, Miraj & Koyana**	Hatkanangale & Shirol	Panhala & Shahuwadi	Radhanagari & Gaganbavada	Akluj & Malsiras	Islampur, Miraj & Koyana	Chikodi & Khanapur	
April 2015	04	05	37	23	02	04	204	04	34	317
May	04	09	40	08	04	02	204	02	12	285
June	08	12	57	17	10	05	224	23	49	405
July	10	18	120	36	12	10	181	19	82	488
August	14	21	153	52	14	08	104	22	90	478
September	10	15	127	28	12	06	73	32	69	372
October	16	12	118	36	18	04	83	11	62	360
November	10	10	102	55	10	03	98	46	85	419
December	12	05	121	72	16	04	102	64	63	459
January 16	11	13	136	47	18	02	139	38	74	478
February	08	07	105	36	16	04	64	23	32	295
March	07	05	54	18	18	08	83	17	29	239
Total	114	132	1170	428	150	60	1559	301	681	4595

F.4: Bull wise AI at different field unit centers during the period 2015-16

Center	**Set – I elite tested bulls**				**Set-II & III**		**Set – V & VI bulls**							**Total**
District: Kolhapur	**PB-101**	**PB-110**	**PB-210**	**PB-201**	**PB-48**	**PB-54**	**PB-67**	**PB-68**	**PB-239**	**PB-244**	**PB-74**	**PB-80**	**PB-246**	
Ajara & Chandgad	-	-	-	-	-	-	25	19	42	12	16	-	-	**114**
Gadhinglaj & Bhudargad	-	-	-	-	-	-	35	12	49	16	20	-	-	**132**
Karveer & Kagal	16	18	25	17	15	27	383	122	380	43	72	23	29	**1170**
Hatkanangale & Shirol	-	-	-	-	-	-	198	25	205	-	-	-	-	**428**
Panhala & Shahuwadi	-	-	-	-	-	-	50	10	72	18	-	-	-	**150**
Radhanagari & Gaganbavada						-	18	-	32	10	-	-	-	**60**
District: Solapur														
Akluj, Malsiras & Pandharpur	-	-	-	-	-	436	167	-	172	36	-	389	359	**1559**
Sangli Islampur, Miraj & Koyana	-	-	-	-	-	-	92	24	128	57	-	-	-	**301**
District:Belgaum														
Chikodi & Khanapur	-	-	-	-	-	-	338	32	245	40	26	-	-	**681**
Total	**16**	**18**	**25**	**17**	**15**	**463**	**1306**	**244**	**1325**	**232**	**134**	**412**	**388**	**4595**

F.5: Month wise Conception by using frozen semen under field unit as on 2015-16

District	Kolhapur						Solapur	Sangali	Belgaum	Total
Center / Month	Ajara & Chandgad	Gadhinglaj & Bhudargad	Karveer & Kagal	Hatkanangale & Shirol	Panhala & Shahuwadi	Radhanagari & Gaganbavada	Akluj & Malsiras	Islampur, Miraj & Koyana	Chikodi & Khanapur	
April, 2015	01	02	14	11	00	01	98	02	15	144
May	02	04	15	03	02	01	103	01	06	137
June	04	05	28	08	05	02	115	10	24	201
July	04	08	58	16	06	04	92	08	38	234
August	06	10	78	24	07	04	51	10	42	232
September	04	07	61	13	05	03	35	13	32	173
October	07	06	59	17	09	02	41	05	28	174
November	05	05	48	26	08	01	49	21	42	205
December	05	02	61	34	09	02	50	29	31	223
January, 16	05	05	68	23	08	01	75	17	38	240
February	03	03	50	17	07	02	30	06	16	134
March	03	02	26	08	10	04	41	07	14	115
Total	49	59	566	200	76	27	780	129	326	2212

F.6: Bull wise Conceptions at different field unit centers during the period 2015-16

Center	Set – I elite tested bulls				Set-II & III		Set – V & VI bulls							Total
District: Kolhapur	**PB-101**	**PB-110**	**PB-210**	**PB-201**	**PB-48**	**PB-54**	**PB-67**	**PB-68**	**PB-239**	**PB-244**	**PB-74**	**PB-80**	**PB-246**	
Ajara & Chandgad	-	-	-	-	-	-	12	09	18	04	06	-	-	49
Gadhinglaj & Bhudargad	-	-	-	-	-	-	15	05	23	07	09	-	-	59
Karveer & Kagal	07	08	12	08	07	13	185	60	186	21	35	11	14	567
Hatkanangale & Shirol	-	-	-	-	-	-	94	10	96	-	-	-	-	200
Panhala & Shahuwadi	-	-	-	-	-	-	25	06	35	10	-	-	-	76
Radhanagari & Gaganbavada						-	08	-	14	05	-	-	-	27
District: Solapur														
Akluj, Malsiras & Pandharpur	-	-	-	-	-	207	82	-	84	16	-	196	182	767
Sangli Islampur, Miraj & Koyana	-	-	-	-	-	-	45	10	62	26	-	-	-	143
District:Belgaum														
Chikodi & Khanapur	-	-	-	-	-	-	162	14	118	18	12	-	-	324
Total	**07**	**08**	**12**	**08**	**07**	**220**	**628**	**114**	**636**	**107**	**62**	**207**	**196**	**2212**

F.7: Month wise calving at different field unit centers during the period 2015-16

District	Kolhapur						Solapur	Sangali	Belgaum	Total	Male	Female
Center / Month	**Ajara & Chandgad**	**Gadhinglaj & Bhudargad**	**Karveer & Kagal**	**Hatkanangale & Shirol**	**Panhala & Shahuwadi**	**Radhanagari & Gaganbavada**	**Akluj & Malsiras**	**Islampur, Miraj & Koyana**	**Chikodi & Khanapur**			
April 2015	05	05	17	05	07	03	14	04	15	75	40	**35**
May	02	06	24	03	06	01	23	02	08	75	42	**33**
June	05	05	36	04	08	03	41	19	15	136	72	**64**
July	09	11	50	06	10	06	81	17	42	232	125	**107**
August	11	13	57	04	12	08	85	13	44	247	132	**115**
September	10	08	46	02	12	04	67	27	40	216	118	**98**
October	14	10	46	05	14	03	77	08	34	211	114	**97**
November	11	06	44	05	10	02	47	34	25	184	98	**86**
December	10	04	54	05	12	02	42	41	31	201	105	**96**
January 2016	13	10	58	02	12	01	43	30	24	193	102	**91**
February	08	05	38	04	11	03	40	10	22	141	74	**67**
March	10	03	25	05	13	03	37	12	20	128	68	**60**
Total	**108**	**86**	**495**	**50**	**127**	**39**	**597**	**217**	**320**	**2039**	**1090**	**949**

F.8: Bull wise calving at different field unit centers during the period 2015-16

Center	**Set – I bulls**				**Set-V bulls**									**Total**	**Male**	**Female**
	PB-101	**PB-110**	**PB-201**	**PB-210**	**PB-67**	**PB-68**	**PB-72**	**PB-238**	**PB-239**	**PB-241**	**PB-69**	**PB-244**	**PB-74**			
District: Kolhapur																
Ajara & Chandgad	-	6	4	5	11	21	15	-	6	25	11	4	-	108	55	**53**
Gadhinglaj & Bhudargad	6	6	-	7	14	8	15	7	8	12	3	-	-	86	45	**41**
Karveer & Kagal	19	9	15	15	8	94	32	73	6	137	16	55	16	495	270	**225**
Hatkanangale & Shirol	-	-	-	-	-	12	-	6	09	10	6	7	-	50	28	**22**
Panhala & Shahuwadi	09	20	08	12	6	12	7	4	8	20	8	10	3	127	69	**58**
Radhanagari & Gaganbavada	3	3	4	7	4	5	-	3	6	4	-	-	-	39	20	**19**
District: Solapur																
Akluj, Malsiras & Pandharpur	-	-	-	-	85	160	-	53	65	26	95	80	33	597	320	**277**
District: Sangali																
Islampur, Miraj & Koyana	-	-	-	-	32	22	26	30	20	30	32	12	13	217	114	**103**
District: Belgaum																
Chikodi & Khanapur	-	-	-	-	13	72	23	58	17	76	26	28	7	320	169	**151**
Total	**37**	**44**	**31**	**46**	**173**	**406**	**118**	**234**	**145**	**340**	**197**	**196**	**72**	**2039**	**1090**	**949**
M	**19**	**24**	**17**	**25**	**92**	**222**	**62**	**126**	**78**	**180**	**102**	**103**	**40**	**1090**		
F	**18**	**20**	**14**	**21**	**81**	**184**	**56**	**108**	**67**	**160**	**95**	**93**	**32**	**949**		

F.9: Bull wise live female progeny at different field unit centers (0-6 month) during the period 2015-16

Center	Set – I bulls				Set-V bulls									Total
	PB-101	PB-110	PB-201	PB-210	PB-67	PB-68	PB-69	PB-238	PB-239	PB-241	PB-244	PB-72	PB-74	
District: Kolhapur														
Ajara & Chandgad	-	1	1	1	3	4	2	-	1	3	2	1	-	**19**
Gadhinglaj & Bhudargad	1	2	-	2	5	1	3	1	2	1	1	-	-	**19**
Karveer &Kagal	4	2	3	5	2	24	5	10	1	25	2	4	2	**89**
Hatkanangale & Shirol	-	-	-	-	-	3	-	1	2	1	1	1	-	**09**
Panhala & Shahuwadi	2	7	3	4	2	2	2	1	2	1	2	8	-	**36**
Radhanagari & Gaganbavada	1	-	1	2	1	1	-	1	1	1	-	-	-	**09**
District: Solapur														
Akluj & Malsiras Pandharpur	-	-	-	-	15	44	-	12	10	4	16	6	10	**117**
District: Sangali														
Islampur, Miraj & Koyana	-	-	-	-	5	4	5	10	6	3	12	1	2	**48**
District: Belgaum														
Chikodi & Khanapur	-	-	-	-	2	22	6	13	3	16	6	2	2	**72**
Total	**8**	**12**	**8**	**14**	**35**	**105**	**23**	**49**	**28**	**55**	**42**	**23**	**16**	**418**

F.10: Bull wise live female progeny at different field unit centres (6-12 month) during the period 2015-16

Center	Set – IV bulls				Set – V bulls							Total
	PB-232	PB-233	PB-234	PB-237	PB-67	PB-68	PB-72	PB-238	PB-239	PB-241	PB-244	
District: Kolhapur												
Ajara & Chandgad	05	-	-	-	02	02	02	-	-	-	-	**11**
Gadhinglaj & Bhudargad	02	-	-	04	-	01	01	-	02	-	-	**10**
Karveer & Kagal	22	-	03	-	04	08	04	02	-	06	-	**49**
Hatkanangale & Shirol	01	-	02	-	-	-	-	-	-	-	-	**03**
Panhala & Shahuwadi	01	-	-	-	02	02	04	-	-	06	-	**15**
Radhanagari & Gaganbavada	-	-	-	-	-	-	-	-	-	-	-	**-**
District: Solapur												
Akluj & Malsiras	-	-	-		07	13	-	-	14	-	06	**40**
Pandharpur	07	15	10	04	-	-	-	-	-	-	-	**36**
District: Belgaum												
Chikodi & Khanapur	04	05	-	10	-	-	-	13	-	-	-	**32**
Total	**42**	**20**	**15**	**18**	**15**	**26**	**11**	**15**	**16**	**12**	**06**	**196**

F.11: Bull-wise live female progeny at different field unit centers (1-3 years) during 2015-16

Center	Set – IV bulls								Set – III bulls								Total
	PB-228	PB-229	PB-230	PB-232	PB-233	PB-234	PB-236	PB-237	PB- 52	PB-54	PB-208	PB-67	PB-68	PB-72	PB-238	PB-239	
District: Kolhapur																	
Ajara & Chandgad	01	-	02	05	-	01	01	-	01	14	-	01	02	01	-	-	**29**
Gadhinglaj & Bhudargad	-	01	-	02	-	-	02	05	-	08	-	-	01	01	-	01	**21**
Karveer & Kagal	06	16	15	38	06	14	05	08	-	34	-	07	05	02	02	-	**158**
Hatkanangale & Shirol	-	-	-	03	-	-	-	-	01	-	-	-	-	-	-	-	**04**
Panhala & Shahuwadi	02	02	01	01	01	02	01	01	-	09	-	01	01	02	-	-	**24**
Radhanagari & Gaganbavada	-	01	01	-	-	01	-	01	01	01	-	-	-	-	-	-	**06**
District: Solapur																	
Akluj, Malsiras & Pandharpur	08	05	04	03	22	22	04	12	06	04	01	08	10	-	-	07	**116**
District: Sangali																	
Islampur & Miraj	01	02	01	03	04	02	01	01	-	04	-	-	-	-	-	-	**19**
District: Belgaum																	
Chikodi & Khanapur	01	02	02	07	05	05	01	13	-	18	-	-	-	-	08	-	**62**
Total	**19**	**29**	**26**	**62**	**38**	**47**	**15**	**41**	**09**	**92**	**01**	**17**	**19**	**06**	**10**	**08**	**439**

F.12: Bull-wise live female progeny at different identified field units centers (> 3 years) during 2015-16

Center	Set – II bulls								Set – III bulls						Set – IV bulls								Total
	48	**49**	**106**	**107**	**114**	**120**	**121**	**123**	**204**	**205**	**207**	**208**	**52**	**54**	**228**	**229**	**230**	**232**	**233**	**234**	**236**	**237**	
Kolhapur																							
Ajara & Chandgad	04	03	01	02	03	02	04	02	04	06	05	10	04	11	05	-	-	-	01	02	01	03	**73**
Gadhinglaj & Bhudargad	01	01	01	01	03	-	-	01	01	02	01	02	03	01	02	-	-	02	-	01	01	02	**26**
Karveer & Kagal	14	15	14	18	22	14	05	12	14	22	15	25	12	34	20	-	02	-	03	04	02	13	**280**
Hatkanangale & Shirol	01	-	-	-	01	02	-	-	-	01	-	01	01	02	01	-	01	-	-	-	-	01	**12**
Panhala & Shahuwadi	02	01	-	02	02	01	01	02	02	04	03	02	02	05	01	-	-	-	02	02	02	01	**37**
Radhanagari & Gaganbavada	-	-	-	01	01	-	-	-	-	03	01	02	-	04	-	-	-	-	-	-	-	-	**12**
Solapur																							
Akluj & Malsiras	02	06	04	10	-	-	-	-	-	-	-	-	25	22	-	-	-		04	05	-	-	**78**
Pandharpur	-	-	-	-	-	-	-	02	10	11	08	06	03	02	05	14	05	02	-	-	05	08	**81**
Sangli																							
Islampur & Miraj	-	-	-	-	-	02	-	-	-	-	-	-	02	01	01	02	01	02	02	01	01	01	**16**
Belgaum																							
Chikodi & Khanapur	01	01	-	-	-	02	-	-	-	-	-	-	-	03	03	05	-	06	02	03	-	05	**31**
Total	**25**	**27**	**20**	**34**	**32**	**23**	**10**	**19**	**31**	**49**	**33**	**48**	**52**	**85**	**38**	**21**	**09**	**12**	**14**	**18**	**12**	**34**	**646**

F.13: Bull-wise daughters calved at different identified field units centers during 2015-16

Center	Set – I bulls								Set – II bulls								Set – III bulls						Total
	101	108	110	118	201	203	209	210	48	49	106	107	114	120	121	123	204	205	207	208	52	54	
Kolhapur																							
Ajara & Chandgad	-	-	01	-	01	02	02	01	02	02	-	02	01	01	02	01	03	02	02	06	03	05	39
Gadhinglaj & Bhudargad	-	-	-	-	-	-	-	01	01	-	-	01	02	-	-	01	-	01	-	01	02	-	10
Karveer & Kagal	02	02	01	03	05	04	03	04	04	08	04	06	04	05	04	03	04	06	03	12	04	15	106
Hatkanangale & Shirol	-	-	-	-	-	-	-	01	-	-	-	-	01	02	-	-	-	01	-	01	01	02	09
Panhala & Shahuwadi	01	-	01	-	01	-	02	-	02	-	-	01	01	-	01	01	01	02	01	02	-	03	20
Radhanagari & Gaganbavada	-	01	-	-	-	-	-	01	-	-	-	01	01	-	-	-	-	02	01	01	-	02	10
Solapur																							
Akluj & Malsiras	-	-	-	-	-	-	-	-	01	02	02	06	-	-	-	-	-	-	-	-	10	13	34
Pandharpur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	04	06	03	03	02	01	20
Sangli																							
Islampur & Miraj	-	-	-	-	-	-	-	-	-	-	-	-	-	01	-	-	-	-	-	-	-	-	01
Belgaum																							
Chikodi & Khanapur	-	-	-	-	-	-	-	-	-	-	-	-	-	01	-	-	-	-	-	-	-	02	03
Total	03	03	03	03	07	06	07	08	10	12	06	17	10	10	07	07	12	20	10	26	22	43	252

F.14: Bull-wise daughters recorded at different identified field unit's centers during 2015-16

Center	Set – I bulls								Set – II bulls								Set – III bulls						Total
	101	108	110	118	201	203	209	210	48	49	106	107	114	120	121	123	204	205	207	208	52	54	
Kolha-pur																							
Ajara & Chandgad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gadhinglaj & Bhudargad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Karveer & Kagal	-	-	-	-	-	-	-	-	04	08	04	06	04	05	04	03	04	06	03	12	04	15	**82**
Hatkanangale & Shirol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Panhala & Shahuwadi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Radhanagari & Gaganbavada	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sola pur																							
Akluj & Malsiras	-	-	-	-	-	-	-	-	01	02	02	06	-	-	-	-	-	-	-	-	10	13	**34**
Pandharpur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	04	06	03	03	02	01	**20**
Sangli																							
Islampur & Miraj	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgaum																							
Chikodi & Khanapur	-	-	-	-	-	-	-	-	-	-	-	-	-	01	-	-	-	-	-	-	-	02	**03**
Total	-	-	-	-	-	-	-	-	**05**	**10**	**06**	**12**	**04**	**06**	**04**	**04**	**08**	**12**	**06**	**15**	**16**	**31**	**139**

F.15: Bull wise AI, conceptions, calving and daughters retained till completion of milk recording till 31-03-2016

Set No.	Bull No.	Total AI	Concep-tions	Calvings		Progenies / Daughters retained upto			
				Total	Female	Below 3 years	Above 3 years	Calving	Complete recording
I	PB-101	1942	783	501	232	08	-	65	32
	PB-108	1743	730	472	227	-	-	66	41
	PB-110	1852	785	466	231	12	-	58	23
	PB-118	1686	758	492	241	-	-	64	29
	PB-201	1985	880	509	242	08	-	51	43
	PB-203	1866	840	532	261	-	-	70	26
	PB-209	1687	759	488	239	-	-	65	23
	PB-210	1810	802	492	276	14	-	86	32
Sub total A		**14571**	**6337**	**3952**	**1949**	**42**	**-**	**525**	**249**
II	PB-48	2730	1462	1120	450	-	25	59	15
	PB-49	5567	2319	1656	605	-	27	83	22
	PB-106	2869	1243	790	384	-	20	44	13
	PB-107	3637	1635	1235	398	-	34	57	20
	PB-114	3095	1334	1095	330	-	32	61	16
	PB-120	2432	1216	1116	524	-	23	47	11
	PB-121	2080	1035	892	415	-	10	44	06
	PB-123	2007	1095	848	390	-	19	44	07
Sub total B		**24417**	**11339**	**8752**	**3496**	**-**	**190**	**439**	**110**
III	PB-204	3079	1061	892	431	-	31	39	14
	PB-205	4346	2162	1048	460	-	49	64	21
	PB-207	3127	1315	885	428	-	33	45	14
	PB-208	7445	2392	1308	604	01	48	81	21
	PB-52	6069	2303	1570	738	09	52	48	20
	PB-54	12103	5862	3716	1505	92	85	88	39
Sub total C		**36169**	**15095**	**9419**	**4166**	**102**	**298**	**365**	**129**
IV	PB-228	2325	1046	615	242	19	38	-	-
	PB-229	3563	1603	852	347	29	21	-	-
	PB-230	3261	1402	902	352	26	09	-	-
	PB-232	2860	1323	996	467	62	12	-	-
	PB-233	1950	877	486	195	38	14	-	-
	PB-234	1771	848	867	316	47	18	-	-
	PB-236	1058	402	465	152	15	12	-	-
	PB-237	2382	1092	553	223	41	34	-	-
Sub total D		**19170**	**8593**	**5736**	**2294**	**277**	**158**	**-**	**-**
V	PB-67	1871	863	213	092	67	-	-	-
	PB-68	1713	804	198	085	60	-	-	-
	PB-72	1223	575	147	079	40	-	-	-
	PB-238	0772	380	123	070	74	-	-	-
	PB-239	1567	736	205	091	52	-	-	-
	PB-241	1074	494	138	055	67	-	-	-
	PB-244	1204	578	219	096	48	-	-	-
	PB-74	304	62	32	16	07	-		
Sub total E		**9728**	**4492**	**1275**	**584**	**415**	**-**	**-**	**-**
Grand total (A+B+C+D+E)		**104055**	**45856**	**29134**	**12489**	**794**	**646**	**1329**	**488**

F.16: AI, Conception, Calvings and Daughters Retained (Set wise)

Bull No	AI	Pregnancies	Daughter Born	Daughters Calved	Complete Recording	Daughters Available
Set I						
PB-101	1942	783	232	65	32	-
PB-108	1743	730	227	66	41	-
PB-110	1852	785	231	58	23	-
PB-118	1686	758	241	64	29	-
PB-201	1985	880	242	51	43	-
PB-203	1866	840	261	70	26	-
PB-209	1687	759	239	65	23	-
PB-210	1810	802	276	86	32	-
Set II						
PB-48	2730	1462	450	59	15	-
PB-49	5567	2319	605	83	22	-
PB-106	2869	1243	384	44	13	-
PB-107	3637	1635	398	57	20	-
PB-114	3095	1334	330	61	16	-
PB-120	2432	1216	524	47	11	-
PB-121	2080	1035	415	44	06	-
PB-123	2007	1095	390	44	07	-
Set III						
PB-204	3079	1061	431	39	14	-
PB-205	4346	2162	460	64	21	-
PB-207	3127	1315	428	45	14	-
PB-208	7445	2392	604	81	21	-
PB-52	6069	2303	738	48	20	-
PB-54	12103	5862	1505	88	39	-
Set IV						
PB-228	2325	1046	242	-	-	-
PB-229	3563	1603	347	-	-	-
PB-230	3261	1402	352	-	-	-
PB-232	2860	1323	467	-	-	-
PB-233	1950	877	195	-	-	-
PB-234	1771	848	316	-	-	-
PB-236	1058	402	152	-	-	-
PB-237	2382	1092	223	-	-	-
Set V						
PB-67	1871	863	92	-	-	-
PB-68	1713	804	85	-	-	-
PB-72	1223	575	79	-	-	-
PB-74	304	62	16	-	-	-
PB-238	772	380	70	-	-	-
PB-239	1567	736	91	-	-	-
PB-241	1074	494	55	-	-	-
PB-244	1204	578	96	-	-	-
Total	**104055**	**45856**	**12489**	**1329**	**488**	-

F.17: Set-wise AI, Conception and daughters retained

Set No.	No. of Bulls	AI	Preg-nancies	Calving		Daughters Retained						
				Total	Female	Up to 1 Year	Up to 2 Year	Above 2 Years	Daughters Recorded	Av. AFC (Month)	Av. Milk Yield (kg/day)	Daughters to be recorded
I	08	14571	6337	3952	1949	42	-	-	249	46.58	4.74	-
II	08	24417	11339	8752	3496	-	-	189	110	45.94	5.07	-
III	06	36169	15095	9419	4166	-	102	275	129	46.40	6.12	-
IV	08	19170	8593	5736	2294	122	143	154	-	-	-	-
V	07	9728	4492	1275	584	193	221	-	-	-	-	-
Total	37	104055	45856	29134	12489	357	466	618	488	46.29	5.18	-

F.18: Performance of FPT Programme since Inception

Duration	AI	Pregnancies	CR %	Calvings	Females born	Daughter recorded	AV. AFC (months)	Av. milk yield (kg/day)	Daughters available for recording
2004-05	-	-	-	-	-		-	-	-
2005-06	-	-	-	-	-		-	-	-
2006-07	3969	1530	38.55	770	382	40	46.58	4.74	-
2007-08	5299	2001	37.76	1254	554	42	45.32	4.94	-
2008-09	9349	4402	47.08	1246	666	70	46.46	5.02	-
2009-10	25006	9622	38.48	4273	1902	80	47.32	4.99	-
2010-11	22602	10337	46.08	6093	2186	108	45.65	5.06	-
2011-12	21047	9263	44.01	5974	2819	105	46.15	6.03	-
2012-13	4081	2183	53.49	3520	1623	43	45.67	6.18	-
2013-14	3766	2202	58.47	2800	1301	-	-	-	-
2014-15	4329	2104	48.60	1165	524	-	-	-	-
2015-16*	4607	2212	48.01	1971	967	-	-	-	-
Over all	104055	45856	47.14	29134	12489	488	46.29	5.18	-

* Pregnancies confirmed up to March 2016 against AI done till December 2015
* Calving reported upto March 2016 against AI done till May 2015

Project Co-ordinator's observations on centre performance

Financial Statement 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Opening balance (ICAR Share)	Anti. Receipt (ICAR Share)	Expenditure as per AUC 2015-16		Closing Balance
Total	ICAR Share				ICAR Share	State Share	
83.00	62.25	62.25	AUC not received				

Herd strength increased to 78 head from 78 in 2014-15. breedable herd size (>2years) 35. Twenty calving (5 male, 12 females and 3 still births) were reported during the period. The calf mortality (0-3 months) was 5.26 percent (1/19). At the farm AI was performed utilizing semen of 10 ulls with the conception rate of 51.51 (17/33) percent, which is quite good. During the period 30630 semen doses were produced and 12333 doses were used in the field and farm. 1,35,242 semen doses available at the centre. Six bull calves were sold to Karnataka and and six breeding bulls were sold to progressive farmers for breeding purpose.

Performance of herd: The improved 305 day or less day milk yield 1526 kg (n=10) was recorded. The reproductive parameters viz AFC, Service period, Dry period and Calving interval were 45.24 months (n=1), 150 days (n=11), 171 days (n=11) and 464 days (n=11) respectively. The wet and herd averages were 4.22 kg and 2.39 kg, respectively and 49.00 percent buffaloes were in milk this year compare to 33.00% in milk during previous year.

Field Unit: 4595 AI's were performed at 9 centers of Kolhapur, Solapur and Belgaum districts. A total of 2212 conceptions took place with the conception rate of 48.14 % (2212/4595) and 1090 male 949 female progenies born.
418 live female progenies of 0-6 m, 196 of 6-12 months and 439 progenies of 1-3 years and 646 progenies of >3years are standing in the field in three districts for future recording. 425 daughters of 8 bulls of 1st set, 110 daughters of 8 bulls of 2nd set and 129 daughters of 6 bulls of 3rd set completely recorded. Semen of V & VI set bulls were used for test mating and some AI's were performed by semen of 1st set bulls for elite mating.

9.21 Target achieved during the 2015-16

Sr. No.	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	34	34.32	34.32
2.	Av. Age at first calving (months)	44	45.24	44.32
3.	Av. Age for initiating training of bulls (months)	-	30.00	30
4.	Av. Age at first collection	30	32.00	32
5.	Av. Service period (days)	130	149.6	109
6.	Calf mortality (0-6 months)	$\leq$ 5 %	5.26 %	5.88 %
7.	Wet average (kg)	$\geq$ 6.00 kg	4.22 kg	4.57 kg
8.	Herd average (kg)	$\geq$ 4.00 kg	2.29 kg	2.12 kg

Recommendations:

- A breedable herd size to be increased upto 50 animals by procuring elite animals from the field for superior bull production.
- 5 young breeding bulls are from the sire no 54. Avoid selecting breeding bulls from same sire.

ASSAM AGRACULTURAL UNIVERSITY, KHANAPARA

1. Name of Centre : Assam Agricultural University, Khanapara, Guwahati.
2. Project code : F.No.18-3/97-ASR II
3. Project Title : Performance recording and improvement of Swamp Buffalo
4. Date of start : 3rd September'2001.
5. Objectives : Specified
6. Technical programme : The prime objective of this scheme is conservation and to bring in genetic improvement of Swamp buffaloes at the existing University farm as well as the private sectors and voluntary organizations. However, the project should also give more emphasis on growth parameters so that buffaloes can be used as better meat animals than milk. This requires a good number of breeding bulls of known genetic merit. Effort will be made under the project to produce some of the breeding bull with comparable performances which will be distributed in the field to be used through natural services for genetic upliftment.

It is thus proposed to take up a programme on the following lines:

A herd comprised of 50 numbers of breedable female buffaloes will be established. Subsequently the herd strength will be increased. The females will be selected based on dam's milk yield, individual phenotypic merit, conformation to the breed etc. At the same time 2-3 breeding bulls will also be maintained in the project. In addition to the present breeding bulls available at the farm, additional young bulls from elite dams of the private owners shall be procured so as to make them ready for replacement in the subsequent years. They will be selected at the age of 2 to 2.5 years of age based on dam's milk, growth rate, body conformation etc. Each bull will be used randomly for breeding the females in estrus in the farm either through AI/ natural services. They shall be used over a cycle of 1.5 years. They will be trained for semen donation if not already trained.

The best performing females in terms of production and reproduction will be retained to replace the earlier stock so as to maintain herd strength and genetic improvement of the stock. The male calves born will also be reared to develop a meat line based on growth performances from birth to market age. The parameter on growth will be recorded. Specific feeding regime for developing meat type buffalos will be followed for augmenting growth of the male buffalo calves.

10. Financial statement: Year 2015-16(Provisional)

Item/Head	Grants (Rs.)	Expenditure w.e.f 30.04.2015 to 31.03.2016	Balance
A. Recurring			-
Pay &Allowance	34,00,000.00	34,00,000.00	-
T.A.	75,000.00	75,000.00	-
Contingency	26,00,000.00	26,00,000.00	-
Total A	60,75,000.00	60,75,000.00	--
B. Non-recurring			
Equipments	-	-	-
Works	3,00,000.00	3,00,000.00	-
Livestock	-	-	-
Total B	3,00,000.00	3,00,000.00	-
Total A + B	63,75,000.00	63,75,000.00	-

8. i) Staff Position :

Sl.No.	Designation	No. of posts sanctioned	**Scale**	No. of posts filled	No. of posts vacant
1	Assoc. Professor (Animal Breeding)	1	12000-16000	1	Nil
2	Asst. Res.Sci. (Rep./Health)	1	23,000 +HRA (Fixed)	1	1
3	Tech. Asst(Lab)	1	4500-7000	1	Nil

9. Herd Performance

9.1 Herd Strength of buffalo under the project during the Period 4/2015 to 3/2016

Category		Addition		Disposal				
Sr. No.		OB	B	T	D	T	S	CB
Female								
1.	Calves 0 – 3 months	01	08	-	03	05	-	01
2.	Calves >3 – 12 months	07	-	11	-	14	-	04
3.	Heifers							
	1 – 2 years	03	-	08	-	05	-	06
	> 2 years	18	-	06	02	02	03	17
4.	Buffaloes in Milk	11	-	01	-	05	-	07
5.	Buffaloes Dry P /NP	12	-	05	01	-	05	11
	Sub Total	**52**	**08**	**31**	**06**	**31**	**08**	**46**
Male								
1.	Calves 0 – 3 months	00	01					01
2.	Calves >3 – 12 months	03	-	02	-	05	-	00
3.	Male above							
	1 – 2 years	01	-	03	-	-	01	03
	> 2 years	07	-	-	-	01	05	01
4.	Breeding bulls	08	-	01	01	-	06	02
5.	Bullocks	-	-					00
6.	Teasers	-	-					00
	Sub Total	**19**	**01**	**06**	**01**	**06**	**12**	**07**
	Grand Total	**71**	**09**	**37**	**07**	**37**	**20**	**53**

9.2 Calving Statistics during the period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepse		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September	-	-	03	30.00	-	-	-	-	-	-	-	-	03	30.00
October	-	-	01	10.00	-	-	-	-	-	-	-	-	01	10.00
November	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December	-	-	02	20.00	-	-	-	-	-	-	-	-	02	20.00
January,16	-	-	01	10.00	-	-	-	-	-	-	-	-	01	10.00
February	1	10	01	10.00	-	-	-	-	-	-	-	-	02	20.00
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overall	1	10	08	80.00	-	-	-	-	-	-	-	-	09	90.00

Sex ratio **Male : Female** **11.11:89.89**

9.3. Disposal of Animals during the Period 4/2015 to 3/2016

Sr. No.		Surplus	Rep. Problem	Weak & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months	-	-	-	03	-	03
2.	Calves >3 – 12 months	-	-	-	-	-	-
3.	Heifers 1 – 2 years > 2 years	- -	- 03	-	01 01	-	01 04
4.	Buffaloes in Milk	-	-	-	-	-	-
5.	Buffaloes Dry P /NP	-	05	-	01	-	06
	Sub Total	-	08	-	06	-	14
	Male						
1.	Calves 0 – 3 months	-	-	-	-	-	-
2.	Calves >3 – 12 months	-	-	-	-	-	-
3.	Male 1 – 2 years > 2 years	01 05	--	-	- 01	-	01 06
4.	Breeding bulls	-	-	06	-	-	06
5.	Bullocks	-		-	-	-	-
6.	Teasers	-	-	-	-	-	-
	Sub Total	06	-	06	01	-	13
	Grand Total	06	08	06	07	-	27

9.4. Month wise Mortality during the Period 4/2015 to 3/2016

Month		Female						Male					Overall Herd
		0-3	3-6	6-12	1-2 Yrs.	Above 2 Yrs.	Overall Female	0-3	3-6	6-12	Above 1 Yrs.	Overall Male	
Overall	No.	09	03	01	07	37	52	01	00	03	07	08	60
	Died	03	-	-	01	02	06	-	-	-	01	01	07
	%	33.3	-	-	14.28	5.04	11.53	-	-	-	14.28	12.50	11.66

Calf mortality (0-3 months) was 30.00 percent (3/10)

10.14. Causes of Mortality (quarter wise) during the period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :				
1. Broncho-Pheumonia	-	-	-	02
B. Digestive System :	-	-	-	-
1. Enteritis	-	-	01	-
C. Circulatory	-	-	-	-
D. Others	-	-	-	-
1. Chronic debility	-	-	01	-
2. Accidents	-	-	-	01
3. Miscellaneous	-	01	-	01
Total	-	01	02	04

10.15. Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	No. of animals Available	Inoculated	Screening	No. of animals Tested	Results	No. of animals treated for Parasitism etc.
FMD	53	53		-	-	All the animals were routinely treated with anthelmintics
HS	53	53		-	-	
BQ	53	53		-	-	
RP	-	-		-	-	
Brucellosis	-	-		-	-	
TB	-	-		-	-	
JD	-	-		-	-	

FMD, HS, BQ vaccines were inoculated in other animals in the field.

10.16. Female Conception Rate During the Period 4/2015 to 3/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Jan. 15	5	1	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	50				-	-	-	13	5	39
Feb.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	100	1	1	100	-	-	-	3	3	100
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	5	72	3	2	66	-	-	-	10	7	70
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	66	-	-	-	-	-	-	3	2	66
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec. 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	5	1	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	13	65	4	3	75	-	-	-	29	17	58

I = Nos. of animals inseminated C = No. of animal conceived CR% = Conception rate %

10.17. Bull wise Conception Rate During the period 4/2015 to 3/2016

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	SB1	8	6	75
2.	C28A	9	5	55
3.	C5	6	2	33
4.	C29	6	4	66
Total		29	17	58

10.18. Bull Wise Semen Stock:

Bull No.	Opening balance	Semen produced /Received	Consumption for AI/ Supplied	Balance
SB1	320	-	28	292
C28A	1070	-	19	1051
C5	246	-	16	230
C29	461	-	10	451
34	92		92	
C13A	370		370	
Total	2559		535	2024

9.10 Body weights since inception of Network (2015-16)

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Heifer (n)	Adult (n)
Female								
	25.50 (8)	43.65 (7)	67.03 (8)	110.50 (6)	163.54 (6)	248.01 (6)	365.50 (3)	410.40
Male								
	29.00 (1)	47.78 (3)	68.80 (3)	115.88 (3)	178.80 (3)	252.88 (3)		430.85 (3)

9.11 Production performance of buffaloes completing their lactation during the period 4/2015 to 3/2016

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	01	515.00	440	370.00	2.75
2nd	-	-	-	-	-
3rd	-	-	-	-	-
4th	-	-	-	-	-
5th	02	840.05	455	560	3.00
6th	-	-	-	-	-
7th	01	680	350	510	2.75
Overall	4	678.50	415	480	2.83

Figures in parenthesis indicate number of observations

9.12 Production Performance of Buffaloes Since Inception of Network

Years	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
2004-05	689.22	281.12	-	4.06
2005-06	530.00	198.00	-	4.75
2006-07	343.01	144.87	-	3.53
2007-08	602.80	276	-	4.16
2008-09	417.73	282	412.57	3.13
2009-10	772.10	389	589.79	3.73
2010-11	578.05	426	417.23	3.35
2011-12	671.32	405	480.18	3.39
2012-13	624.83	360	529.37	3.21
2013-14	682.00	411	501.00	3.75
2014-15	724.13	422.50	301.00	3.00
2015-16	678.50 (4)	415.00 (4)	480.00 (4)	2.83 (4)

9.13 Average Milk Components (Month wise) 4/2015 to 3/2016

Month	**Animal in milk (N)**	**Av. Fat (%)**	**SNF**	**Protein**	**Lactose**
April, 2015	9	7.73	9.21	3.42	-
May	7	7.65	9.10	3.37	-
June	6	9.79	8.86	3.53	-
July	6	8.59	9.08	3.18	-
August	5	8.86	9.16	3.33	-
September	6	8.59	9.08	3.18	-
October	8	7.38	9.23	3.24	-
November	7	7.91	9.10	3.06	-
December	7	8.07	9.31	3.20	-
January, 16	7	9.01	9.67	3.37	-
February	8	8.42	9.73	3.49	-
March	6	8.11	9.22	3.20	-
Overall	**82**	**8.35**	**9.23**	3.30	-

N.B. Provision of testing lactose is not available in the existing machine.

9.14Reproduction Performance of Buffaloes During the Period 4/2015 to 3/2016

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
Average Age at Calving (Months)	53.00 (01)	-	-	-	-	53.00 ±0.00
Average Service Period (Days)	-	182.00 (03)	-	110.00 (01)	157.00 (03)	151.00±
Average Dry Period (Days)	-	320.00 (03)	-	160.00 (01)	251.00 (03)	244.61±
Average Calving Interval (Days)	-	380.00 (03)	-	550.00 (01)	640.00 (03)	523.33±

9.14.1. Reproduction Performance of Buffaloes Since inception of Network

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
2004-05	47.94±0.31	63.60±9.58	-	-
2005-06	49.31±1.21	99.11±20.92	120.60±6.64	367.60±5.24
2006-07	47.97±0.87	99.81±35.51	152.09±35.42	445.30±80.30
2007-08	47.98±0.94	155.58±47.55	236.00±53.55	472.17±48.37
2008-09	49.33±0.00	134.73±9.02	177.55±17.51	440.18±8.80
2009-10	59.77±4.05	364.55±67.17	343.11±67.33	660.64±65.89
2010-11	-	366.58± 69.89	270.75± 60.82	652.25±72.23
2011-12	66.63±5.07	380.00±102.77	233.60±70.66	611.40±108.94
2012-13	65.13±14.80	210.75±97.92	210.00	506.50±106.21
2013-14	47.18±	251.50±	156.50±	563.50±
2014-15	63.33± 6.57	458.33±	255.67±	774.171±
2015-16	53.00±0.00 (1)	151.00±14.8 (7)	244.61±25.6 (7)	523.33±57.52(7)

9.15Month wise Milk Production and Disposal During the Period 4/2015 to 3/2016

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	589.15	283.25	305.00	0.90
May	589.65	283.75	305.00	0.90
June	553.15	272.25	280.00	0.90
July	552.15	265.25	286.00	0.90
August	436.65	203.25	232.50	0.90
September	370.35	159.75	210.00	0.60
October	508.65	259.75	248.00	0.90
November	508.30	266.00	241.50	0.80
December	491.65	280.75	210.00	0.90
January, 16	478.55	247.75	230.00	0.80
February	367.35	198.25	168.50	0.60
March	359.35	193.25	165.50	0.60
Total	**5804.95**	**2913.25**	**2882.00**	**9.7**

Note: Mention sale price of milk (range during the year)

9.16. Feed and fodder purchased and offered to animals during the period 4/015 o 3/2016

Month	Type of fodder/feed	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
April, 15	Green	300.00	-	300.00	-
	Dry	-	20.00	10.00	10.00
	Silage	-	-	-	-
	Concentrate	-	*37.03 +55.00	47.00	45.03
May	Green	320.00	-	320.00	-
	Dry	-	-	5.00	5.00
	Silage	-	-	-	-
	Concentrate	-	51.00 +45.03	47.00	49.03
June	Green	350.00	-	350.00	-
	Dry	-	-	5.00	--
	Silage	-	-	-	-
	Concentrate	-	52.00+49.03	41.00	60.03
July	Green	350.00	-	350.00	-
	Dry	-	-	-	-
	Silage	-	-	-	-

	Concentrate	-	25.00+60.03	37.00	48.03
August	Green	310.00	-	-	-
	Dry	-	-	-	-
	Silage	-	-		-
	Concentrate	-	26.00+48.03	37.00	37.03
September	Green	290.00	-	-	-
	Dry	-	-	-	-
	Silage	-	-	-	-
	Concentrate	-	26.00+37.03	36.00	27.03
October	Green	280.00	-	-	-
	Dry	-	-	-	-
	Silage	-	-	-	-
	Concentrate	-	26.00+27.03	34.00	19.03
November	Green	250.00	-	-	-
	Dry	-	-	-	-
	Silage	-	-	-	-
	Concentrate	-	26.00+19.03	34.00	11.03
December	Green	220.00	-	-	-
	Dry	-	-	-	-
	Silage	-	-	-	-
	Concentrate	-	25.00+11.03	36.03	-
January 16	Green	220.00	70.00		
	Dry	-	40.00	15.00	25.00
	Silage	-	-	-	-
	Concentrate	-	45.00	40.00	5.00
February	Green	210.00	65.00	-	-
	Dry	-	10.00 +25.00	20.00	15.00
	Silage	-	-	-	-
	Concentrate	-	40.00+5.00	40.00	5.00
March	Green	220.00	65.00	-	-
	Dry	-	17.00+15.00	15.00	17.00
	Silage	-	-	-	-
	Concentrate	-	41.72+5.00	40.00	6.72
Total	Green	3320.00	200.00	3520.00	-
	Dry	-	87.00	50.00	17.00
	Silage	-	-	-	-
	Concentrate	-	562.81	469.03	6.72

Note : Fodder is procured from the nearby outstation of AAU only

9.17. Milking performance during the period 4/2015 to 3/2016

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	11	12	23	47.82	0.85	0.41
May	09	14	23	39.13	1.02	0.39
June	08	10	18	44.44	1.13	0.50
July	08	10	18	44.44	1.06	0.47
August	06	12	18	33.33	1.09	0.36
September	06	12	18	33.33	0.88	0.29
October	08	11	19	42.10	1.04	0.44
November	07	12	19	36.84	1.26	0.46
December	08	11	19	42.10	1.13	0.49
January, 16	07	12	19	35.00	1.14	0.42
February	07	12	19	36.84	0.97	0.36
March	07	11	18	38.88	0.89	0.35
Overall	**8**	**12**	**19**	**39.52**	**1.03**	**0.41**

9.17.1 Milking Performance since Inception

Year	No. of Animal in Milk	Nos. of Animal Dry	Total Animal	% in Milk	Wet Av. (lit)	Herd Av. (lit)
2001-02	-	-	-	-	-	-
2002-03	-	-	-	-	-	-
2003-04	-	-	-	-	-	-
2004-05	5	10	15	36.86	2.44	0.91
2005-06	7	3	10	67.28	2.39	1.61
2006-07	6	6	12	50.92	1.95	1.15
2007-08	13	7	20	65.00	1.56	1.02
2008-09	13	12	25	50.49	2.13	1.07
2009-10	13	13	26	49.31	2.15	1.06
2010-11	10	11	21	54.48	2.11	1.19
2011-12	8	8	16	54.50	2.19	1.16
2012-13	7	6	13	56.36	1.95	1.07
2013-14	8	7	14	53.51	2.19	1.17
2014-15	6	13	19	30.65	0.70	0.21
2015-16	8	12	19	39.52	1.03	0.41

9.18 Bull wise daughters born during the period 4/2015 to 3/2016

Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lactation
C9C	3	-	
C28A	3	-	
C5	2	-	
C29	1	-	

9.19 Bull wise daughters completing 1st lactation during the period 4/2015 to 3/2016

Bull No.	Daughter No.	Date of birth	Date of calving	First lact. 305 day or less milk yield(kg)	Total yield/ L.L	Remarks
34	C9E	04.11.09	23.08.14	-	154.25	-
34	C7C	21.11.09	15.10.14	368.00	323.00	-

9.20 List of breeding /young bulls as on 31-03-2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best lact.305 or days less yield (kg)	Semen doses available	Remarks
1	C9C	02.09.07	9	10	532.75	-	-
2	C28A	30.09.07	28	12	1344.25	560	-

9.21 Target achieved during the year 2015-16

Sr. No	Traits	Target	Achievement
I	Av. Age of first service (months)	36	42.50
II	Av. Age of first calving (months)	45	53.00
III	Av. Age for initiating training of bulls (months)	24	-
IV	Av. Age at first collection	36	-
V	Av. Service period (days)	150	151.00
VI	Calf mortality (0-3 months) %	$\leq$ 5 %	30.00
VII	Wet average (kg)	$\geq$ 3.0 kg	1.03
VIII	Herd average (kg)	$\geq$ 2.0 kg	0.41

10. **Research Achievements:**

- The present herd strength during the period under report is 53 heads.
- Production performance: The total milk produced during 2015-16 is recorded to be 5804.95 kg , average peak yield of 2.50 kg. The herd average is recorded to be 0.41 kg and wet average 1.03 kg.
- Milk fat percentage was found to range from 8.35 to 9.79 with an average percentage of 7.73 %, SNF from 9.23 to 9.73 % with an average of 8.86 %, total solids ranging from 17.47 to 18.68 with an average of 16.619.45 % and protein percentage from 3.18% to 3.49 % with an average value of 3.30 have been recorded
- The female conception rate during the year 2015-16 has been recorded to be 58.00% and the bull wise conception rate has been recorded to be 58.00% which is little higher than the previous year.
- During the period two free vaccination cum treatment camps were organized in buffalo *khuties* where large number of buffaloes were vaccinated and treated against various diseases.
- Imparting training to the farmers as well as unemployed youths organized by the Directorate of Extension Education in the buffalo farm under project regarding increased productivity of buffalo.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Expenditure as per AUC		Closing Balance
Total	ICAR Share		ICAR Share	State Share	
64.00	48.00	48.00	AUC not Received		

Herd Performance

Herd strength at the centre was 53 heads, having 35 breedable females. Only nine calving were reported during the year (1 male and 8 female), calf mortality (0-3 months) was 30% (3/10) overall mortality was 11.7%. Four breeding bulls were used for 29 inseminations at the farm. 17 buffaloes conceived with a conception rate of 58.00%. 535 semen doses were used / supplied and 2024 doses are available at the centre. 305 or less day milk yield was 480.0 kg (n= 4) and age at first calving, service period, dry period and calving interval were 53.00 month (n=1), 151 days (n=7), 245.67 days (n=7) and 523 days (n=7) respectively. Wet & herd averages were 1.03 kg and 0.41 kg.

Targets achieved during 2015-16

S. No	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	36 months	42.51	42.91
2.	Av. Age at first calving	45 months	53.00	63.3
3.	Av. Age for initiating training of bulls (months)	24 months	--	--
4.	Av. Age at first collection	36 months	--	--
5.	Av. Service period	150 days	151	458.33
6.	Calf mortality (0-3 months)	$\leq$ 5 %	30.00	14.28
7.	Wet average	$\geq$ 3.0 kg	1.03	0.70
8.	Herd average	$\geq$ 2.0 kg	0.41	0.21

Recommendations:

- Herd size should be kept minimum required.
- The breeding bulls can be selected on the basis of growth traits along with other production parameters. Maximum of two breeding bulls and two male calves be kept for breeding at all times. All surplus males be disposed off without dely.
- Asstt. Res. Sci. (Rep/Health) be filled on regular basis.

LIVESTOCK RESEARCH STATION, VALLABHNAGAR

1. **Name of center** : Livestock Research Station ,Vallabhnagar RAJVASU, Bikaner.
2. **Project Code** :
3. **Project Title** : Network Project on Buffalo Improvement
4. **Date of start** : 01-04-2001
5. **Objectives** : The objective of the project is to envisage and undertake progeny testing for improvement of Surti breed of buffaloes. Priority and emphasis will be on performance recording and improvement of the breed and on semen quality testing laboratory.

6. Technical Programme : The prime objective of this scheme is to bring in genetic improvement in Surti buffaloes at the existing University farm as well as at the private sector and voluntary organizations. This requires a good number of bulls of known merit, which are produced in the farm and are identified in the field for rearing at the farm and to be included into the Progeny Testing program.

7. Financial Statement :Rs (in Lacs)

Head	**Budget sanctioned**	**Amount spent**
Pay & Allowances	16.00	14.58
T.A.	1.00	0.39
Contingencies Recurring University Development Fund	 42.00 14.00	 42.00 14.00
Non recurring	8.00	7.89
Total	**81.00**	**78.86**

8. Staff Position :

Name of Employee	**Designation**	**Pay Scale (Rs.)**	**Date of Joining**
Scientific Dr.Kuldeep Singh Nehra	Associate Professor (Animal Breeding)	37400-67000	23-04-2015
Dr. Mitesh Gaur	Assistant Professor (Rep/Health)	15600-39100	28-09-2005
Technical Sh. Gireesh Kumar	SRF against Technical Assistant	28000/-Fixed	01-02-2002

9.1 Conservation Unit (Institutional herd)): Enclosed Table 9.1 to 9.21.

- The herd strength changed from 133 to 113 during report period.
- Male : Female sex ratio in the calf born (21 calves) during report period was 4:3.
- Only two calf mortalities observed in the 0-3 months age group.
- No case of dystocia, abortion, retention of placenta, prolapse of vagina was observed however there was one case of still birth recorded during the report period.
- The conception rate was observed as 37.5 % at the university farm, which is consistent with the last year observation.
- Semen of 10 bulls was used during the period at farm; out of which five were test bulls and 5 proven bulls of 1st, 2nd and 3rd set for nominated mating.
- Total 11,885 semen doses were frozen during report period with closing balance of 47,501 at the end of the report period.

- The average birth weight was 22.80 kg and 22.96 kg in female and male calves, respectively which is slightly higher than previous years.
- The average total lactation yield was 1623.90 kg produced in 344.85 days. Average 305 days milk yield was 1477.38 kg with average peak yield of 8.78 kg. The average lactation yield and 305 days milk yield has increased from last year; however the peak yield is slightly less.
- The Fat percentage in milk was 7.43 % which is at par to that of last year.
- Age at 1st calving was 46.29 months which is lower than that of six years out of the last seven.
- The average service period, dry period and calving interval was 169.29, 192.47 and 483.74 days respectively.
- A total of 41,183.00 kg of milk was produced with an overall percent buffaloes in milk 47.90 %, wet average 5.13 kg and herd average 2.43 kg.
- Test mating from VI test of bulls has been completed.
- Collection and test mating of VII set of bulls is almost complete.

9. Herd Performance: 9.1 to 9.21

9.1 Herd Strength During the Period 4/2015 to 3/2016

Category		Addition			Disposal			
Sr. No.		OB	B	T	D	T	S	CB
				Female				
1.	Female Calves below 3 months	0	9	0	1	7	0	1
2.	Female Calves 3-6 months	6	0	7	0	11	0	2
3.	Female Calves 6-12 months	6	0	11	1	11	0	5
4.	Heifers above							
	1-2 years	10	0	11	4	8	0	9
	2-2.5 years	6	0	8	0	8	0	6
	Above 2.5 years	5	0	8	1	1	0	11
5.	Buffaloes in Milk	20	0	1	0	0	2	19
6.	Buffaloes Dry P /NP	19	0	0	1	0	4	14
	Sub Total	72	9	46	8	46	6	67
				Male				
1.	Male Calves below 3 months	1	12	0	1	7	2	3
2.	Male Calves 3-6 months	6	0	7	1	8	0	4
3.	Male Calves 6-12 months	5	0	8	0	12	1	0
4.	Male above							
	1-2 years	12	0	12	2	10	2	10
	> 2 years	22	0	10	4	3	5	20
5.	Breeding bulls	12	0	3	0	0	8	7
6.	Bullocks	1	0	0	0	0	0	1
7.	Teasers	2	0	0	0	0	1	1
	Sub Total	61	12	40	8	40	19	46
	Grand Total	133	21	86	16	86	25	113

OB = Opening Balance D = Deaths S = Sale
B = Births T = Transfer CB = Closing Balance

9.2. Calving Statistics during the period 4/2014 to 3/2015

Month	M		F		Dystokia		Prolapse		Still Birth		Abortion		Over all	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00
May	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00
June	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00
July	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00
August	0	0.00	6	27.27	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	6	27.27
September	7	31.82	2	9.09	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	9	40.91
October	2	9.09	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	2	9.09
November	1	4.55	0	0.00	0.00	0.00	0.00	0.00	1	2.94	0.00	0.00	2	9.09
December	1	4.55	1	4.55	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	2	9.09
January,16	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00
February	1	4.55	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	1	4.55
March	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00
Overall	12	54.55	9	40.91	0.00	0.00	0.00	0.00	1	2.94	0.00	0.00	22	100.00

Sex ratio Male 54.55: Female 40.91

9.3. Disposal of Animals during the period 4/2015 to 3/2016

Female						
Category	Surplus	Repd. Problem	Weak & Old	Death	Experimental purposes	Total
1.Female Calves 0-3 months	-	-	-	1	-	1
3-12 months	-	-	-	1	-	1
2. Heifers 1-2 years	-	-	-	4	-	4
> 2 years	-	-	-	1	-	1
3. Buffaloes in Milk			2		-	2
Dry P/NP	1	2	1	1	-	5
Sub Total	1	2	3	8	0	14
Male						
1.Male Calves 0-3 months	2	-	-	2	-	4
3-12 months	1	-	-	1	-	2
1-2 years	2	-	-	1	-	3
>2 years	5	-	-	4	-	9
4. Breeding bulls	8	-	-	-	-	8
5.Bullocks	-	-	-	-	-	0
Teaser	-	-	1	-	-	1
Sub Total	18	0	1	8	0	27
Grand Total	19	2	4	16	0	41

9.4. Month wise mortality during the period 4/2015 to 3/2016

Month	Female							Male					Overall Herd
		0-3	03 to 06	06 to 12	1-2 Yrs.	Above 2 Yrs.	Overall Female	0-3	03 to 06	06 to 12	Above 1 Yrs.	Overall Male	
TOTAL	**No.**	**25**	**25**	**58**	**134**	**162**	**404**	**28**	**20**	**53**	**404**	**505**	**909**
	Died	**1**	**0**	**1**	**4**	**2**	**8**	**1**	**1**	**0**	**6**	**8**	**16**
	%	**4.00**	**0.00**	**1.72**	**2.99**	**1.23**	**1.98**	**3.57**	**5.00**	**0.00**	**1.49**	**1.58**	**1.76**

Calf mortality (0-3 months) was 9.09 percent (2/22)

9.5. Causes of Mortality (quarter wise) during the period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :	-	-	-	-
1. Broncho Pneumonia	2	1	2	1
B. Digestive System :	-	-	-	-
1. Enteritis	1	1	1	-
2. Septicemia & Toxaemia	2	1	-	-
C. Circulatory	-	-	-	**1**
D. Others	-	-	-	-
1. Miscellaneous	1	1	-	1
Total	**6**	**4**	**3**	**3**

9.6 Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	**No. of animals Available**	**Inoculated**	**Screening**	**No. of animals Tested**	**Results**	**No. of animals treated for Parasitism**	
						Endo	**Ecto**
FMD	130	130	MRT	18	All -ve	121	224
HS	130	130	RBPT	12	All -ve		
BQ	130	130					

9.7. Female Conception Rate during the Period 4/2015 to 3/2016

	Heifer									**First Calvers**									**Multiparous**									**Overall**		
	1st AI			2nd AI			3rd & above			1st AI			2nd AI			3rd & above			1st AI			2nd AI			3rd & above					
2015	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**	**I**	**C**	**CR**
January	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	-	-	-	2	1	50	-	-	-	-	-	-	3	2	66.67
February	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	100	-	-	-	-	-	-	3	3	100
March	-	-	-	-	-	-	-	-	-	1		0	-	-	-	-	-	-	1		0	-	-	-	-	-	-	2	0	0
April	2	-	-	-	-	-	-	-	-	2		0	1	1	100				3		0	-	-	-	-	-	-	8	1	12.5
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	0	0	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		0	-	-	-	-	-	-	1	0	0
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		0	-	-	-	1	0	0
August	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-
September	2		0	2	2	100				2		0	3	2	66.67	1		0	3		0	7	1	14.28	5	2	40	25	7	28
October				2	1	50	1	1	100	1	1	100	1	1	100	-	-	-	-	-	-	1		0	3	1	33.33	9	5	55.56
November	1		0	1		0	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	-	-	50	5	2	40
December	1		0	1	1	100	-	-	-	-	-	-	-	-	-	-	-	-	2	1	50	1	1	100	2	1	50	7	4	57.14
Total	**6**	**0**	**0**	**6**	**4**	**66.67**	**1**	**1**	**100**	**7**	**2**	**28.57**	**5**	**4**	**80**	**1**	**0**	**0**	**16**	**6**	**37.5**	**10**	**2**	**20**	**12**	**5**	**41.67**	**64**	**24**	**37.5**

I = No. of animals inseminated C = No. of animals conceived CR% = Conception rate%

9.8. Bull wise Conception Rate during the period 4/2015 to 3/2016

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1	1948	10	2	20.00
2	1950	7	3	42.86
3	1952	7	5	71.43
4	1956	15	6	40.00
5	1961	12	3	25.00
6	4403	2	1	50.00
7	4413	5	1	20.00
8	4429	2	1	50.00
9	4464	2	1	50.00
10	4497	2	1	50.00
Total		64	24	37.50

9.9 Bull Wise Semen Stock

Sr. No	Bull No.	Set No	Opening Balance	Semen Prod./ Received	Consumption for AI/Supplied				Balance
					Dairy Farm	Field Unit	other Agencies	Total consumed	
1	1948	I	290	-	30	-	-	30	260
2	1949	I	2	-	-	-	-	0	2
3	1950	II	400	-	16	-	-	16	384
4	1951	II	25	-	-	-	-	0	25
5	1952	II	254	-	14	-	-	14	240
6	1953	II	95	-	-	-	-	0	95
7	1955	III	680	-	-	-	-	0	680
8	1956	III	590	-	28	-	-	28	562
9	1957	III	900	-	-	-	-	0	900
10	1958	III	195	-	-	-	25	25	170
11	1959	III	250	-	-	-	250	250	0
12	1961	III	541	-	38	-	-	38	503
13	1962	IV	85	-	-	-	-	0	85
14	1963	IV	1020	-	-	-	-	0	1020
15	1964	IV	510	-	-	-	-	0	510
16	1965	IV	350	-	-	-	-	0	350
17	1966	IV	1195	-	-	-	-	0	1195
18	1967	IV	2435	-	-	-	-	0	2435
19	1968	IV	1690	-	-	-	-	0	1690
20	1969	IV	1640	-	-	-	-	0	1640
21	1970	IV	5	-	-	-	-	0	5
22	1971	V	1111	-	-	-	-	0	1111
23	1972	V	573	-	-	-	-	0	573
24	1973	V	1451	-	-	-	-	0	1451
25	1974	V	1137	-	-	-	-	0	1137
26	1975	V	741	-	-	-	-	0	741
27	1976	V	1346	-	-	-	-	0	1346
28	1977	V	1877	-	-	-	-	0	1877
29	1978	V	70	-	-	-	-	0	70
30	4203	VI	268	-	-	-	-	0	268
31	4229	VI	3863	40	-	-	-	276	3627

32	4264	VI	2246	35	-	-	-	0	2281
33	4299	VI	5593	110	-	-	-	0	5703
34	4302	VI	174	-	-	-	-	0	174
35	4321	VI	124	-	-	-	-	0	124
36	4323	VI	99	-	-	-	-	0	99
37	25	VI	248	-	-	-	-	0	248
38	8	VI	565	-	-	-	-	0	565
39	4373	VII	200	1942	-	514	-	514	1628
40	4403	VII	1097	2103	2	123	-	125	3075
41	4392	VII	646	1642		200	-	200	2088
42	4429	VII	961	1725	4	276	-	280	2406
43	4413	VII	818	858	16	487	5	508	1168
44	4458	VII	337	495		649	60	709	123
45	4464	VIII	17	924			-	0	941
46	4497	VIII	597	85	10	672	-	0	0
47	4529	VIII	0	866			-	-	866
48	4542	VIII	0	125			-	-	125
49	4567	VIII	0	125			-	-	125
50	4578	VIII	0	810			-	-	810
Total			**39311**	**11885**	**158**	**2921**	**340**	**3695**	**47501**

9.10 Body Weights since inception of Network

Year	Birth	3 Months	6 Months	12 Months	18 Months	24 Months	At AFC
Female							
2001-02	26.86±1.04	62.44±3.88	-	-	-	-	-
2002-03	27.78±0.77	60.23±2.84	99.54±2.99	183.33±7.69	244.00±NE	-	-
2003-04	27.73±1.39	58.62±2.03	89.88±3.22	160.08±5.26	232.50±8.88	277.29±8.34	-
2004-05	27.82±0.75	60.85±1.90	89.07±3.60	165.37±3.06	237.75±5.93	299.12±9.43	405.33±8.08
2005-06	27.88±0.64	54.80±1.33	85.43±2.15	129.40±4.08	191.45±3.33	224.25±4.62	415.71±14.98
2006-07	28.52±0.54	55.00±0.77	76.10±1.50	119.55± 1.61	166.14± 1.93	217.13± 3.21	426.57 ± 7.68
2007-08	28.89±0.72	58.71±2.41	83.68±2.74	116.43± 4.77	159.77± 2.57	208.40± 4.35	430.47±10.81
2008-09	28.56±0.37	59.80 ± 1.85	84.77 ± 3.62	120.64± 6.25	162.58± 4.15	210.21 4.17	435.83 ± 6.41
2009-10	27.71±0.58	60.09±3.11	85.25±4.54	131.50±5.32	181.91±4.82	209.43±3.83	434.23±8.12
2010-11	27.54±0.76	59.84 ± 3.45	72.91 ± 3.96	109.09 ± 4.58	163.19 ± 5.09	205.43 ± 4.16	427.67 ± 9.15
2011-12	26.84±0.86	58.46±2.45	74.45±4.23	108.37±5.37	162.82±7.34	208.64±4.64	426.54±14.21
2012-13	26.80±0.82	59.45±2.47	75.95±4.25	110.40±5.32	165.50±7.30	212.65±4.75	429.50±14.40
2013-14	24.13±0.30	60.34±2.46	77.13±6.26	100.67±1.70	161.72±12.81	209.63±16.76	462.50±23.58
2014-15	21.66±0.64	49.41±2.33	64.13±3.44	106.5±13.92	214.00±4.71	239.25±7.27	440.75±15.24
Male							
2001-02	28.71±1.15	65.17±3.14	99.80±1.74	-	-	-	-
2002-03	30.18±3.57	63.43±5.66	100.38±2.34	164.60±3.04	239.75±14.92	-	-
2003-04	28.21±0.91	59.46±3.61	88.80±5.16	168.00±7.80	241.00±7.65	338.91±16.86	417.62±8.23
2004-05	27.76±0.76	58.39±1.70	90.96±1.87	165.33±9.56	239.50±7.50	335.31±14.21	479.25±75.65
2005-06	29.45±0.85	60.21±2.27	86.62±3.49	121.71±10.04	179.67±21.26	260.5±16.5	440.0±29.67
2006-07	29.85±0.80	55.54±1.20	83.73±2.10	116.40± 0.82	169.13±10.09	214.40±15.86	440.0± 29.67
2007-08	29.58±0.62	60.23±2.30	86.00±5.79	112.75± 6.25	171.20± 8.86	221.20±18.04	444.75± 6.58
2008-09	29.33±0.45	61.47 ± 1.80	89.42 ± 2.64	118.50 ±5.27	176.36± 3.90	225.71± 6.57	441.38±11.54
2009-10	27.85±0.57	65.86±3.39	91.50±4.07	132.50±16.6	183.88±8.01	226.74±9.34	439.41±16.48
2010-11	28.03 ±0.54	76.71 ± 3.17	69.92 ± 3.36	109.70±14.86	166.28± 6.54	214.49 ±10.91	436.37±17.69
2011-12	28.37±1.02	61.87±4.72	79.43±3.66	124.97±5.72	164.64±445	224.54±14.75	438.64±31.42
2012-13	28.55±1.05	62.80±4.75	80.35±3.65	125.45±5.25	170.5±4.50	225.75±14.80	445.74±31.38
2013-14	24.31±0.49	60.74±3.36	76.00±12.96	107.33±10.35	166.54±10.35	215.59±14.21	455.80±65.67
2014-15	22.38±0.65	52.3±2.28	67.81±4.70	153.5±14.24	184.00±2.83	224.5±10.76	452.60±28.64
2015-16	22.96±0.39	51.00±2.12	75.25±3.71	118.42±2.25	181.25±5.69	226.25±7.28	411.44±22.37

9.11 Production Performance of Buffaloes Completing Their Lactation during 4/2015 to 3/2016

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305 day Milk Yield (kg)	Av. Peak yield
1st	5	1535.30 ± 66.95	376.80 ± 10.39	1341.00 ± 67.36	7.0 ± 0.36
2nd	5	1708.88 ± 183.70	312.80 ± 30.70	1590.76 ± 130.64	9.9 ± 0.42
3rd	4	1944.05 ± 133.99	410.25 ± 41.69	1634.9 ± 102.36	9.48 ± 0.44
4th	1	1154.1	304.0	1154.10	8.00
5th&Above	5	1465.38 ± 130.97	300.8 ± 13.90	1439.06 ± 114.89	9.06 ± 0.56
Overall	**20**	**1623.90 ± 77.97**	**344.85 ± 15.06**	**1477.38 ± 58.40**	**8.78 ± 0.33**

9.12 Production Performance of Buffaloes since Inception of Network

Year	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305 day Milk Yield (kg)	Av. Peak yield
2001-02	1687.42±110.73	315.00±20.88	1606.00±95.38	9.08±0.40
2002-03	1859.21±70.84	304.68±11.87	1792.70±62.60	10.23±0.17
2003-04	1653.11±42.43	278.10±5.80	1645.78±41.11	10.59±0.18
2004-05	1661.63±49.10	299.1±7.87	1633.26±39.73	11.13±0.23
2005-06	1721.07±72.95	292.32±9.97	1667.20±62.32	11.32±0.27
2006-07	1684.73 ± 52.55	293.03 ± 5.24	1661.06 ± 50.04	10.89 ± 0.31
2007-08	1726.25 ± 72.56	303.53 ± 8.26	1649.06 ± 45.70	11.17 ± 0.21
2008-09	1598.69 ± 51.34	337.62 ± 7.81	1491.37 ± 44.77	9.75 ± 0.24
2009-10	1600.89 ± 64.93	328.28 ± 16.09	1551.11 ± 49.56	9.69 ± 0.38
2010-11	1433.91 ± 72.22	319.0 ± 17.74	1348.87 ± 72.00	9.0 ± 0.28
2011-12	1428.65±45.49	318.76±9.91	1386.12±47.16	8.82±0.22
2012-13	1432.7±50.59	296.48±9.01	1390.57±41.29	9.70±0.21
2013-14	1526.74±49.26	294.30±9.79	1480.64±38.21	9.58±0.18
2014-15	1493.40±53.85	294.00±7.69	1443.99±60.65	9.71±0.25
2015-16	**1623.90 ± 77.97**	**344.85 ± 15.06**	**1477.38 ± 58.40**	**8.78 0.33**

9.13 Average Milk Components during the Period (Month-Wise) 4/2015 to 3/2016

Months	Animals in Milk	Av. Fat (%)	SNF	Protein	Lactose
April, 2015		8.49	9.95	3.65	5.49
May	19	7.47	8.83	3.47	5.52
June	16	7.92	9.73	3.29	5.24
July	10	8.04	9.72	3.38	5.12
August	10	7.62	8.53	3.47	5.12
September	20	6.93	9.53	3.42	5.18
October	20	6.76	9.33	3.48	3.48
November	19	6.67	9.92	3.52	5.38
December	17	6.87	9.13	3.38	5.12
January, 2016	18	7.21	9.87	3.61	5.43
February	19	7.63	9.37	3.47	5.52
March	19	7.59	9.32	3.45	5.63
Overall		**7.43**	**9.44**	**3.47**	**5.19**

9.14 Reproduction Performance of Buffaloes during the Period 4/2015 to 3/2016

Traits	Lactation No.					Overall
	1	2	3	4	5 & above	
Average age at Calving (months)	46.29 (1)	-				46.29 (1)
Average Service Period (days)	151.40 ± 46.78 (6)	149.50 ± 46.01 (5)	263.15 ± 62.37 (3)	264.50 ± 132.58 (2)	117.00 ± 5.35 (3)	169.29 ± 27.39 (19)
Average Dry Period (days)	-	227.00 ± 26.24(8)	172.50 ± 20.15(3)	242.67 ± 54.46(3)	122.00 ± 19.51(5)	192.47 ± 19.78(19)
Average Calving Interval (days)	-	505.60 ± 27.54 (8)	550.00 ± 4.24(3)	535.50 ± 42.07(3)	392.80 ± 25.67 (5)	483.74 ± 21.03(19)

9.14.1 Reproduction Performance of Buffaloes Since inception of Network.

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
2001-02	-	243.92 ±42.12	250.08 ±23.75	556.17 ±24.96
2002-03	-	195.00 ±22.93	204.45 ±25.71	489.95 ±24.01
2003-04	1517.34 ±50.82	146.13 ±14.32	177.35 ±12.01	454.71 ±14.45
2004-05	1370.64 ±86.23	153.55 ±11.10	179.37 ±9.84	462.79 ±11.33
2005-06	1366.23 ±31.93	145.87 ±18.50	171.83 ±16.20	451.63 ±18.03
2006-07	1367.69 ±29.27	148.68 ±13.13	163.32 ±11.69	450.27 ±14.29
2007-08	1431.62 ± 22.36	150.57 ± 13.02	162.03 ± 23.45	456.11 ± 11.48
2008-09	1565.62 ± 41.18	118.27 ± 16.96	172.88 ± 15.90	480.25 ± 16.10
2009-10	1489.18 ± 29.65	203.10 ± 22.39	169.57 ± 11.58	453.30 ± 16.06
2010-11	1391.67 ± 88.97	108.68 ± 19.01	193.57 ± 19.64	503.24 ± 22.75
2011-12	1461.00 ± 98.49	97.11 ± 5.15	141.19 ± 31.18	425.90 ± 33.77
2012-13	1448.00 ± 69.58	108.6 ± 14.82	164.08 ± 21.72	441.73 ± 22.99
2013-14	45.47 ± 2.62	119.63 ± 11.84	135.60 ± 7.83	401.06 ± 11.50
2014-15	47.01 ± 2.49	162.28 ± 18.74	177.2 ± 35.07	445.9 ± 33.71
2015-16	46.29	169.29 ± 27.39	192.47 ± 19.78	483.74 ± 21.03

9.15 Month wise Milk Production and disposal during the period 4/2015 to 3/2016

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	2439.5	2348.5	90	1
May	1966	30	30	2.5
June	1617.5	1616.5	0	1
July	1460.5	1458.5	0	2
August	1179	1358.5	2	0
September	11602.50	10287.00	999	10.5
October	3804.5	2408	1335	3
November	3945.5	2570.5	1299	2.5
December	3513	2958.5	495	2.5
January, 16	3384.5	3009.5	372	3
February	3150.5	2796	324	3
March	3120	2839	279.00	1.5
Total	**41,183.00**	**33,680.50**	**5,225.00**	**32.50**

Sale Price : Rs 41.00/liter

9.16 Feed and fodder purchased and offered to animals during the period 4/2015 to 3/2016

Month	Type of fodder/feed	Qty produced at farm	Qty. Purchased	Actually feed	Balance
April	Green	0	129.1	129.1	0
	Dry	0	0	195	251.75
	Silage	0	0	0	0
	Concentrate	0	0	110.1	73.9
May	Green	0	0	0	0
	Dry	0	0	210.8	-210.8
	Silage	0	0	0	0
	Concentrate	0	593.58	98.89	494.69
June	Green	0	70.2	70.2	0
	Dry	0	165	210	-45
	Silage	0	0	0	0
	Concentrate	0	0	106.8	-106.8
July	Green	0	189.7	189.7	0
	Dry	0	200	201.5	-1.5
	Silage	0	0	0	0
	Concentrate	0	0	110.67	-110.67
August	Green	0	117.5	117.5	0
	Dry	0	200	192.2	7.8
	Silage	0	0	0	0
	Concentrate	0	0	102.92	-102.92
September	Green	0	165.1	165.1	0
	Dry	0	200	186	14
	Silage	0	0	0	0
	Concentrate	0	0	101.4	-101.4
October	Green	0	72.8	72.8	0
	Dry	0	180	161.2	18.8
	Silage	0	0	0	0
	Concentrate	0	0	114.39	-114.39
November	Green	0	35.7	35.7	0
	Dry	0	341.1	150	191.1
	Silage	0	0	0	0
	Concentrate	0	520.4	110.4	410
December	Green	0	273.2	273.2	0
	Dry	0	74.7	161.2	-86.5
	Silage	0	0	0	0
	Concentrate	0	0	106.33	-106.33
January	Green	0	284.2	284.2	0
	Dry	0	210.5	161.2	49.3
	Silage	0	0	0	0
	Concentrate	0	0	105.09	-105.09
February	Green	0	244	244	0
	Dry	0	43.6	174	-130.4
	Silage	0	0	0	0
	Concentrate	0	0	94.64	-94.64
March	Green	0	182.4	182.4	0
	Dry	0	329.2	155	174.2
	Silage	0	0	0	0
	Concentrate	0	138.5	104.78	33.72
TOTAL	**Green**	**0**	**1763.9**	**1763.9**	**0**
	Dry	**0**	**1944.1**	**2158.1**	**232.75**
	Silage	**0**	**0**	**0**	**0**
	Concentrate	**0**	**1252.48**	**1266.41**	**170.07**

9.17. Milking performance during the period 4/2015 to 3/2016

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	592	578	1170	50.60	4.12	2.09
May	582	621	1203	48.38	3.38	1.63
June	491	650	1141	43.03	3.29	1.42
July	491	687	1178	41.68	3.54	1.24
August	326	853	1179	27.65	4.17	1.15
September	543	627	1170	46.41	5.08	2.36
October	619	590	1209	51.20	6.15	3.15
November	576	556	1132	50.88	6.85	3.49
December	518	505	1023	50.64	6.78	3.43
January, 16	558	465	1023	54.55	6.07	3.31
February	537	420	957	56.11	5.87	3.29
March	589	434	1023	57.58	5.30	2.43
Overall	**6422**	**6986**	**13408**	**47.90**	**5.13**	**2.43**

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2001-02	4298	6652	10950	39.25	6.92	2.72
2002-03	7946	4190	12136	65.47	5.90	3.86
2003-04	10560	4946	15506	68.10	5.99	4.08
2004-05	8731	4717	13448	64.92	6.19	4.02
2005-06	12536	7623	20159	61.69	5.66	3.49
2006-07	12299	8306	20605	59.69	5.64	3.37
2007-08	10057	7717	17774	56.58	5.70	3.23
2008-09	8975	7124	16099	55.75	5.48	3.06
2009-10	10119	7668	17787	56.55	4.27	2.42.
2010-11	9072	6836	15908	58.39	4.48	2.73
2011-12	8501	5212	13713	63.29	4.66	3.02
2012-13	8281	4412	12693	65.24	5.15	3.36
2013-14	8181	4701	12882	63.51	5.11	3.25
2014-15	10214	4639	14853	68.77	4.69	3.22
2015-16	6422	6986	13408	47.90	5.13	2.43

9.18 Bull wise daughters born during the period 04/2015 to 3/2016

Bull No.	Total No. of daughters born		No. of daughters reaching A.F.C.		No. of daughters completing 1st Lact.		Last Lact.
	Farm	Field	Farm	Field	Farm	Field	
I st Set							
1946	-	-	-	-	-	-	-
1947	-	-	-	-	-	-	-
1948	-	-	-	-	-	-	-
1949	-	-	-	-	-	-	-

IInd Set							
1950	2	-	-	-	-	-	-
1951	-	-	-	-	-	-	-
1952	3	-	-	-	-	-	-
1953	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-
IIIrd Set							
1955	-	-	-	-	-	-	-
1956	1	-	-	-	-	-	-
1957	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-
1961	2	-	-	-	-	-	-
IVth Set							
1963	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-
1966	-	-	-	-	-	-	-
1967	-	-	-	-	-	-	-
1968	-	-	-	-	-	-	-
1969	-	-	-	-	-	-	-
1970	-	-	-	-	-	-	-
Vth Set							
1971	-	-	-	-	-	-	-
1972	-	-	-	-	-	1	-
1973	-	-	-	-	1	-	-
1974	-	-	-	2	2	2	-
1975	-	-	1	3	2	3	-
1976	-	-	-	1	-	4	-
1977	-	-	-	4	-	6	-
1978	-	-	-	3	-	11	-
VI th Set							
4224	-	-	-	-	-	-	-
4229	-	-	-	6	-	2	-
4264	-	-	-	7	-	1	-
4299	-	-	-	6	-	1	-
4302	-	-	-	2	-	-	-
4321	-	-	-	-	-	-	-
4323	-	-	-	-	-	-	-
4203	-	-	-	2	-	1	-

9.19Bull wise daughter completing 1st lactation (since inception) till 3/2016

S. No.	Bull No.	Daughters number	Date of birth	Date of calving	I lactation milk yield		Lactation length day
					Total	305 days	
1.	1948	4330	8.05.2005	28.07.10	1229.5	1229.5	268
2.	1949	4454	02-02-2008	26.08.13	1636.4	1626.1	320
3.	1950	3948	25.11.98	16.06.03	1277	1277	281
		3902	03.06.98	30.06.03	1350	1350	274
		4025	12.04.00	13.07.03	1300	1300	230
		4035	29.06.00	13.07.03	769	769	158
		3956	25.12.98	13.08.03	1150	1150	263
		4019	27.03.00	13.10.03	869	869	169
		4018	24.03.00	01.01.04	1405	1405	305
		4078	13.08.01	18.12.04	1805	1707	349
		4021	02.04.01	09.08.05	740	740	188
		4046	26.08.00	10.09.05	1367	1367	294
		4127	05.04.02	29.10.05	1760	1610	355
		4128	24.04.02	06.08.06	1480	1480	297
		C-109	20.07.98	05.08.03	-	1337	305
		C-80	19.05.98	09.10.03	-	1393	305
		C-112	24.07.98	29.08.04	-	1210	305
4.	1951	3950	26.11.98	26.11.02	731	731	206
		3929	26.09.98	01.12.02	1131	1131	249
		3925	10.09.98	21.12.02	955	955	229
		3920	06.09.98	13.02.03	1179	1179	255
		4014	12.03.00	03.06.03	1361	1361	228
		3959	10.01.99	20.06.03	1321	1321	258
		3954	12.12.93	23.07.02	1181	1181	254
		3908	05.08.98	01.10.03	1659	1659	283
		3980	26.08.99	06.10.03	1157	1157	223
		C-90	17.06.98	30.10.02	-	1465	305
		B-192	18.07.98	16.10.03	-	966	305
		B-188	15.07.98	29.08.04	-	1433	305
		E-510/199	14.08.01	04.10.06	-	1317.6	305
		B-374/129	10.09.00	23.08.06	-	1096.5	243
		A-171/391	08.09.02	28.08.06	-	1369.5	305
5.	1952	3945	17.11.98	18.02.03	607	607	122
		4003	13.01.00	27.06.03	1565	1544	314
		3988	19.11.99	14.07.03	1103	1103	235
		4005	31.01.00	27.07.03	1116	1116	234
		4008	13.02.00	01.08.03	1235	1235	297
		3946	19.11.98	26.10.03	1070	1070	231
		3911	16.08.98	02.11.03	1438	1438	305
		3931	27.09.98	13.05.04	1157	1157	220
		B-196	03.08.98	17.01.03	-	1666	305
		A-009	20.09.98	18.10.04	-	1702	305
		D-02	10.07.01	15.08.05	-	1351	305
6.	1953	3969	08.03.99	25.08.03	809	809	183
		3970	13.03.99	29.08.03	1237	1237	291
		4009	15.12.00	11.09.03	958	958	189
		4011	24.02.00	07.12.03	1593	1593	274
		4082	31.08.01	27.08.05	1203	1199	308
		4061	03.10.00	28.06.06	1429	1380	331
		A-054	30.08.99	23.11.04	-	1549	305
		B-250	23.11.99	23.09.05	-	1211	305
		B-403	14.10.00	22.10.05		1397	305
		A-43	06.09.00	18.09.05	-	1366	305
		A-105/230	15.09.01	07.01.07	-	1384.7	305
		E-581	23.02.02	23.04.08	-	1311.5	305
7.	1954	C-413/559	10.05.02	15.10.08	-	823.5	305

8.	1955	C-469	21.10.02	13.07.10	-	838.75	305
		C-491	26.01.03	14.08.10	-	1201.07	305
		C-470	23.10.02	06.10.10	-	1424.35	305
		A-179	14.10.02	04.08.07	-	1534.15	305
		A-187	21.01.02	15.10.07	-	860.1	305
		C-484	15.12.02	22.10.07	-	1128.5	305
		4107	02.11.01	20.09.05	1248	1248	273
		4182	11.12.02	21.03.06	1413	1359	330
		4194	30.01.03	24.10.07	1055	1055	222
		D-34	18.08.01	15.09.05	-	1809	305
		D-43	23.08.01	22.02.06	-	1967	305
		B-400/419	15.10.00	31-08-06	-	1223.1	305
		A-129/166	02.12.01	03.11.06	-	1708.0	305
		4198	21.02.03	16.07.07	1360.5	1360.5	277
		E-599/141	19.08.02	01.09.08	-	1119.35	305
		B-708/64	17.01.03	05.11.08	-	1204.75	305
		D-198/521	29.07.03	02.02.09	-	1281	305
		D-180/510	23.01.03	07.03.09	-	924	275
		B-595	05.06.02	08.04.10	-	1159	305
		D-183	05.06.03	11.09.09	-	1266	305
		D-193	10.07.03	06.01.10	-	1022	305
		D-201	05.08.03	18.01.10	-	1254	305
9.	1956	4129	07.05.02	19.08.05	1152	1152	298
		4164	30.10.02	18.10.05	1063	1063	255
		B-701	03.12.02	13.07.10	-	588.65	305
		C-472	30.10.02	13.04.11	-	1714.1	305
		C-473	31.10.02	02.05.11	-	1451.8	305
		D-115	01.07.02	08.06.07	-	866.2	305
		A-142	24.07.02	27.07.07	-	1040.05	305
		A193	02.01.03	06.09.07	-	1607.35	305
		4122	20.01.02	19.12.05	1391	139	302
		4180	09.12.02	30.09.06	1126	1126	264
		B-328	10.08.00	03.10.05	-	1281	305
		A-022/441	19-10-01	06-11-06	-	1329.8	305
		4272	29.12.03	05.07.07	1261.5	1160.5	351
		4184	16.12.02	08.12.07	1305.0	1300.0	309
		B-684/476	20.10.02	01.12.08	-	966.85	305
		D-174	22.11.02	04.08.08	-	1805.6	305
		B-692	06.11.02	14.0809	-	1083	305
		A-172	15.09.02	01.01.10	-	1346	305
10.	1957	4121	31.12.01	22.10.05	871	871	220
		4135	31.07.02	26.10.06	1377	1377	269
		A-154/414	11-08-02	28.11.06	-	1668.4	305
		C-584	17.05.04	09.05.11	-	1772.05	305
		D-135	17.08.02	02.04.08	-	1149.85	305
		A-164	10.09.02	26.07.08	-	1375.55	305
		4186	21.12.02	15.06.07	1408.0	1297.0	369
		4233	26.08.03	28.09.07	800.5	800.5	275
		E-590/471	03.08.02	01.10.08	-	1293.2	305
		E-593/62	10.08.02	25.08.08	-	1189.5	305
		E-601/463	15.09.02	01.01.09	-	1189.5	305
		B-603/191	21.06.02	01.11.08	-	957.7	305
		B-635/68	30.07.02	01.11.08	-	960.75	305
		B-653/184	23.08.02	07.11.08	-	930.25	305
		A-164/399	10.09.02	26.07.08	-	1375.55	305
		B-615	13.07.02	05.04.10	-	1205	305
		D-195	12.07.03	26.12.09	-	1110	305
11.	1958	4098	17.10.08	22.09.05	915	915	211
		4145	05.09.02	28.08.06	1108	1108	281
		B-717	21.04.03	25.10.07	-	588.65	305
		B-676	08.10.02	05.12.07	-	1079.7	305

		4123	23.01.02	14.09.06	1340	1340	284
		4166	01.11.02	15.11.06	1058	1058	223
		C-400	12.11.01	06.07.05	-	1308	305
		4165	30.10.02	02.11.07	914.0	914.0	240
		4227	18.07.03	24.07.07	1958.0	1337.0	476
		B-698	30.11.02	14.03.09	-	1784.25	305
		B-706/76	09.01.03	05.11.08	-	1018.7	305
		4228	23.07.03	19.10.08	-	650	248
		E-638	06.09.03	15.08.09	-	860	305
		A-216	25.08.03	25.11.03	-	1116	305
		D-191	16.07.03	18.07.09	-	714	305
		D-219	24.09.03	16.02.10	-	964	305
12.	1959	C-507	07.06.03	05.01.11	-	725.9	305
		C-562	02.11.03	19.04.11	-	1833.05	305
		A-201	14.07.03	26.11.07	-	1232.20	305
		4244	29.08.03	05.09.07	487	487	147
		C-571/896	30-03-03	05-05-07	-	1247.5	305
		4245	01.09.03	24.07.07	1608.0	1505.0	345
		4189	04.01.03	20.08.07	1450.5	1306.0	372
		4240	22.08.03	17.01.08	1470.0	1459.0	312
		4259	04.11.03	21.11.07	761.5	761.5	262
		C-583/821	15.05.04	05.10.08	-	875.35	305
		4267	17.12.03	19.08.08	1122	1119.5	307
		4256	26.10.03	10.10.08	-	976.5	312
		C-503	07.06.03	02.07.09	-	1226	305
		C-544	30.09.03	24.09.09	-	1229	305
		B-802	09.05.04	11.08.09	-	1464	305
		B-758	27.09.03	22.09.09	-	1174	305
		D-228	17.11.03	18.02.10	-	848	305
13.	1961	4242	25.08.03	18.08.07	697	697	165
		4232	02.08.03	21.09.07	1163.5	1115.0	334
		4224	14.07.03	13.09.07	745.0	745.0	218
		E-636/578	05.09.03	01.12.08	-	1302.35	305
		A-252/742	07.10.03	10.09.08	-	1302.35	305
		C-577	02.01.04	24.10.09	-	1214	305
		C-655	12.10.03	28.08.09	-	1720	305
		E-672	30.12.03	18.12.09	-	1513	305
		A-250	02.10.03	10.0809		891	305
		A-275	27.01.04	13.04.11	-	1181.25	305
		C-555	27.10.03	19.04.11	-	1451.8	305
		A-272	17.01.04	30.04.11	-	1848.03	305
		C-578	02.09.04	17.05.11	-	1427.4	305
		B-777	19.10.03	15.09.07	-	1143.75	305
		A-256	10.10.03	30.09.07	-	1387.75	305
		C-526	25.08.03	26.10.09	-	1052.25	305
		A-265	03.12.03	26.11.09	-	1089	305
		A-261	26.11.03	13.12.09	-	1138	305
		D-206	12.08.03	10.02.10	-	942	305
		E-674	05.10.04	20.07.11	-	1848.3	305
14.	1962	E-630	12.08.03	08.06.09	-	793	305
		E-617	02.08.03	23.08.09	-	1943	305
15.	1963	4314	02.12.04	05.11.08	1267	1266	307
		4286	22.08.04	11.08.10	841	841	207
		4310	25.11.04	08.08.09	1257	1257	269
		E-692	27.08.04	10.07.10	-	1433.5	305
		A-417	17.11.05	30.11.10	-	1826.95	305
		A-409	04.11.05	12.12.10	-	1939.08	305
		C-587	01.07.04	10.04.11	-	1891	305
		C-585	04.06.04	07.05.11	-	1357.25	305
		A-286	06.08.04	30.04.11	-	2360.70	305
		B-822	20.08.04	21.07.09	-	1525	305

		D-250	15.07.04	28.02.10	-	692	305
		C-760	26.10.05	31.07.11	-	1168.2	305
		A-412	09.11.05	30.07.12		710.65	305
16.	1964	B-877	13.11.04	13.09.08	-	869.25	305
		4320	18.12.04	01.12.08	1295.5	1292.5	307
		4308	12.11.04	11.09.09	1161	1029	372
		4317	09.12.04	22.07.09	1364	1055	420
		A-371	03.09.05	07.06.10	-	1656.15	305
		B-877	13.11.04	19.09.08	-	869.5	305
		B-961	08.09.05	25.08.09	-	1083	305
		D-304	16.03.05	03.03.10	-	458	305
		E-790	16.07.06	02.04.12	-	1732.4	305
		B-989	15.10.05	25.08.11	-	1095.0	305
		C-633	23.10.04	05.07.11	-	1540.3	305
		C-635	26.10.04	15.08.11	-	1546.5	305
		C-720	30.08.05	01.01.12	-	2186.9	305
		C-716	22.08.05	14.07.12		1506.7	305
17.	1965	C-593/833	05.08.04	01.12.08	-	1021.75	305
		B-938	18.08.05	04.08.10	-	1329.8	305
		C-684	04.07.05	04.11.10	-	762.5	305
		C-733	16.09.05	05.02.11	-	777.75	305
		C-734	17.09.05	17.12.10	-	814.35	305
		A-389	30.09.05	13.11.10	-	2397.30	305
		B-944	23.08.05	21.09.09	-	1113	305
		E-687	10.08.04	20.01.10	-	805	305
		C-696	20.07. 05	30.08.12		1546.35	305
18.	1966	C-607/911	29.08.04	01.03.09	-	1128.5	305
		4291	17.09.04	14.12.08	-	1274	278
		4359	25.11.05	16.09.10	472.0	472.0	118
		B-844	13.09.04	23.06.09	-	1296	305
		D-283	14.09.04	15.07.10	-	1488.4	305
		D-312	17.07.05	03.04.11	-	1220	305
		C-607	29.08.04	05.03.09	-	1128.5	305
		D-295	24.10.04	03.03.10	-	586	305
		E-696	07.09.04	28.01.10	-	842	305
		A-295	29.08.04	29.08.09	-	1101	305
		4381	30.07.06	25.12.11	1196.0	1196.0	267
		A-297	31.08.04	27.08.11	-	1342.0	305
19.	1967	4295	09.10.04	11.10.08	1286.0	1192.5	338
		4343	3.09.05	11.08. 10	934.5	934.5	291
		4426	24.07.07	8.07.10	1264	1198.5	335
		E-722	04.11.04	10.02.10	-	1016	305
		A-285	28.07.04	02.08.09	-	918	305
		D-244	26.05.04	10.12.09	-	1055	305
		A-288	09.08.04	06.10.11	-	427.0	305
		C-862	21.10. 06	07.02.13		1101.05	305
		C-863	21.10. 06	30.11.13		1686.65	305
20.	1968	C-661/861	12.12.04	20.12.08	-	1058.35	305
		A-344/690	02.08.05	03.11.08	-	1656.15	305
		B-901	18.05.05	09.08.10	-	997.35	305
		B-907	23.06.05	16.09.10	-	1198.65	305
		C-671	28.01.05	10.12.10	-	1198.65	305
		D-363	22.02.06	09.04.11	-	1311.5	305
		A-398	13.10.05	25.05.11	-	1924.55	305
		4292	24.09.04	02.10.08	1531	1311.5	362
		C-658	06.12.04	27.08.09	-	1299	305
		A-395	0910.05	02.10.09	-	909	305S
		D-333	02.09.05	04.07.11		973.0	305
		D-356	30.11.05	12.08.11	-	1445.7	305
		C-668	27.12.04	11.08.11	-	1515.9	305
		E-781	10.01.06	17.12.13		1399.95	305

21.	1969	C-624/853	08.10.04	20.12.08	-	994.3	305
		B-833/818	29.08.04	05.11.08	-	1006.5	305
		4271	25.09.04	16.07.08	-	1380	342
		D-383	08.08.06	16.07.10	-	1711.05	305
		D-388	15.08.06	18.07.10	-	1619.55	305
		A-445	15.07.06	10.08.10	-	1268.8	305
		D-389	16.08.06	07.06.11	-	1085.8	305
		4306	12.11.04	20.02.09	865.5	865.5	213
		4289	02.0904	20.11.04	1414.5	1398.5	311
		C-796	08.02.06	25.07.09	-	1168	305
		B-1053	31.08.06	02.01.12	-	1247.5	305
		C-835	08.09.06	05.09.11	-	1583.0	305
		C-814	25.07.06	04.06.12	-	1232.5	305
		A-450	25.07.06	31.10.12		1119.35	305
22.	1970	C-643	20.11.04	12.11.09	-	1268	305
		A-317	30.10.04	12.10.10	-	1274.9	305
		A-319	11.11.04	12.04.11	-	1143.75	305
23.	1971	4427	09.08.07	19.09.11	1209.0	1078.0	357
		A-533	15.01.07	28.11.11	-	912.0	305
		C-825	26.08.06	17.09.11	-	1523.2	305
		B-1069	24.09.06	29.09.12	-	1159.0	305
		4511	22.09.09	29.12.13	-	1443.4	290
		4528	05.08.10	12.01.14	-	1185.6	323
		4533	12.08.10	11.07.14	-	875.8	240
24.	1972	4399	21.11. 06	19.10.10	1386	1386	351
		4405	03.12.06	12.07.11	1297	1255	329
		4455	09.08.06	06.08. 11	870.5	870.5	257
		A-652	08.07.06	03.09.12	-	1052.25	305
		D-511	06.08.06	05.05.2013	-	1277.95	305
		D-501	05.07.08	10.10.13	-	1598.2	305
		D-515	08.08.08	02.11.13	-	1817.5	305
		4494	10.04.09	20.01.14	1399.6	1377.3	315
		D-507	02.08.08	10.03.15	-	1348.1	305
25.	1973	E-816	03.10.06	31.07.11	-	1015.7	305
		C-876	28.10.06	10.10.11	-	1491.5	305
		C-871	17.10.06	14.10.11	-	1482.3	305
		B-1191	01.07.08	17.11.12	-	1534.15	305
		A-664	30.07.08	30.09.12	-	741.15	305
		A-748	02.07.09	03.10.12	-	741.15	305
		C-869	10.07.07	14.09.13		1521.95	305
		4523	28.07.2010	25.03.14	1195.3	1126.8	342
		4537	22.08.10	25.05.14	602.2	602.2	157
		4520	16.07.10	09.09.14	1771.8	1564.5	366
26.	1974	4426	24.07.07	8.07.10	1264	1198.5	335
		D-414	25.10.06	13.08.10	-	2080.1	305
		A-513	05.11.06	28.09.10	-	2016.05	305
		A-591	30.09.07	10.10.11	-	1125.5	305
		A-593	02.10.04	28.09.11	-	1442.7	305
		B-1224	15.09.08	31.07.11	-	1256.6	305
		D-405	11.09.06	06.08.11	-	1058.4	305
		C-854	16.10.06	20.01.13	-	1287.1	305
		C-1002	17.10.07	10.10.13	-	1521.95	305
		B-1165	29.10.07	03.10.12	-	1320.65	305
		B-1173	18.11.07	02.06.13	-	1708.0	305
		A-598	12.10.07	10.11.12	-	1174.25	305
		A-626	26.11.07	16.11.12	-	1729.35	305
		A-630	05.12.07	10.08.12	-	747.25	305
		C-1002	17.10.07	10.10.13	-	1372.5	305
		B-1178	20.12.07	04-09-13	-	1741.55	305
		4482	01.12.08	21.09.13	1628.3	1628.3	295
		4501	02.08.09	21.11.13	1305	1305	278

		4539	23.08.10	23.04.14	1312.6	1259.7	333
		4555	02.11.10	01.05.14	705.5	705.5	214
		4569	26.08.11	16.06.14	1462.9	1302.9	392
		4557	25.12.10	06.09.14	1351.2	1098.9	413
		C-1212	29.09.10	02.09.14	-	1653.1	305
		D-646	07.09.10	07.01.15	-	1244.4	305
27.	1975	A-507	22.10.06	05.12.11	-	1034.0	305
		C-987	17.09.07	07.10.11	-	1055.3	305
		B-1286	19.05.09	21.08.12	-	1268.8	305
		A-498	11.10.06	30.09.12	-	1027.85	305
		A-588	20.09.07	12.05.13	-	1912.35	305
		A-640	02.02.08	07.10.12	-	1027.85	305
		C-916	12.0407	21.10.13	-	1817.80	305
		B-1406	25.07.10	06.10.13	-	1653.1	305
		D-555	04.07.09	05.12.13	-	1479.25	305
		4549	26.09.10	06.01.14	1115.1	1115.1	232
		4513	25.09.09	09.08.14	1453.6	1339.1	346
		4514	26.10.09	16.09.14	1636.8	1399.4	367
		4582	29.09.11	31.08.15	56.9	56.9	39
		B-1395	25.06.10	28.09.14	-	1387.75	305
		B-1400	17.07.10	17.08.14	-	1241.35	305
		D-623	24.07.10	17.12.14	-	1229.15	305
28.	1976	A-603	15.10.07	14.10.10	-	3476.35	305
		C-895	25.11.06	12.10.11	-	2196.0	305
		B-1276	18.03.09	28.08.12	-	1296.25	305
		A-775	10.08.09	17.07.12	-	710.65	305
		C-906	14.12.06	15.11.13	-	1238.3	305
		B-1317	15-08-09	28.08.13	-	1662.25	305
		A-781	19.08.09	06.10.13	-	1448.75	305
		A-763	27.07.09	09.09.14	-	1256.6	305
		C-1004	22.10.07	10.02.15	-	1412.15	305
		C-1128	15.09.09	03.06.14	-	1268.8	305
		G-20	02.09.10	17.09.14	-	1454.85	305
29.	1977	B-1136	23.08.07	10.04.11	-	2577.25	305
		A-565	04.09.07	11.10.11	-	1308.5	305
		A-550	04.08.07	30.11.11	-	847.9	305
		A-552	12.08.07	06.12.11	-	1198.5	305
		B-1203	04.08.08	12.0711	-	2180.8	305
		B-1130	29.07.07	30.12.11	-	1732.4	305
		C-976	03.09.07	25.12.12	-	1360.3	305
		A-570	06.09.07	16.07.12	-		305
		A-718	26.10.08	12.08.12	-		305
		C-1046	16.08.08	20.10.13	-	1714.1	305
		B-1198	21.07.08	24.10.13	-	1561.6	305
		A-656	24.07.08	16.10.13	-	1515.85	305
		A-675	10.08.08	05.11.13	-	1375.55	305
		G-13	08.08.08	25.10.13	-	2244.8	305
		A-799	31.08.09	29.07.14	-	1247.45	305
		A-959	24.09.10	10.08.14	-	1232.2	305
		C-1150	01.11.09	15.01.15	-	1384.7	305
		G133	22.05.10	12.09.14	-	1189.5	305
		G-50	08.08.08	02.10.14	-	1378.6	305
		G-71	12.04.10	09.10.14	-	1503.65	305
30.	1978	D-480	05.10.07	08.05.11	-	1296.25	305
		D-452	24.07.07	09.06.11	-	1311.5	305
		E-845	19.07.07	22.07.11	-	1967.3	305
		A-539	27.06.07	15.08.11	-	1308.5	305
		A-536	03.06.07	27.09.11	-	1116.3	305
		A-544	10.07.07	25.09.11	-	1201.7	305
		A-548	18.07.07	25.11.11	-	1220.0	305
		C-951	04.08.07	02.10.11	-	893.7	305

		C-959	13.08.07	22.10.12	-	-	305
		C-966	25.08.07	25.02.13	-	-	305
		B-1114	27.06.07	02.10.12	-	-	305
		A-717	25.10.08	08.09.12	-	-	305
		A-819	28.09.09	16.10.12	-	-	305
		C-940	10.07.07	10.06.13	-	1521.95	305
		C-960	16.08.07	18.09..13	-	1418.25	305
		C-929	04.05.07	15.11.13	-	1561.6	305
		C719	02.11.08	22.09.13	-	1168.15	305
		D-634	06.08.10	22.10.13	-	1952	305
		A-700	25.09.08	05.07.14	-	1244.4	305
		A-734	07.12.08	16.09.14	-	1290.15	305
		A-913	17.08.10	14.12.14	-	1326.75	305
		B-1349	22.10.09	24.11.14	-	1375.55	305
		B-1386	08.06.10	09.11.14	-	1357.25	305
		B-1416	12.08.10	13.09.14	-	1384.7	305
		C-1192	16.06.10	12.08.14	-	1634.8	305
		C-1202	17.07.10	10.08.14	-	1360.3	305
		G-135	25.06.10	02.12.14	-	1125.45	305
		G-26	19.07.10	25.07.14	-	1293.2	305
		G-59	28.07.10	29.11.14	-	1317.6	305

9.20List of breeding /young bulls as on 31-03-2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dams best lact.305days or less yield (kg)	Semen doses available	Remarks
1	4373	28-02-2006	3701	1949	1986	1628	BB
2	4458	08-07-2008	3836	1973	2198	123	BB
3	4464	24-08-2008	3701	1949	1986	941	BB
4	4497	30-05-2009	4194	1974	1894.7	0	BB
5	4529	07-08-2010	4289	1971	1398.5	866	BB
6	4535	17-08-2010	3799	1975	1829	-	Teaser
7	4538	23-08-2010	4128	1974	1676.7	-	-
8	4542	28-08-2010	4189	1971	1397.5	125	-
9	4548	24-09-2010	4224	1974	1573	-	-
10	4553	19-10-2010	4399	1973	1227.5	-	-
11	4561	27-07-2011	4227	1974	1681	-	-
12	4567	21-08-2011	4330	1973	2054.9	125	BB
13	4571	08-09-2011	4166	1972	1637	-	-
14	4576	20-09-2011	4267	1975	1457.5	-	-
15	4578	23-09-2011	4198	1974	1790.5	810	BB
16	4579	26-09-2011	4184	1971	1318	-	-
17	4611	28-09-2012	3908	1948	1996.5	-	-
18	4612	05-10-2012	4176	1957	1709	-	-
19	4614	21-10-2012	4267	1950	1457.5	-	-
20	4617	26-10-2012	4330	1957	2054.9	-	-
21	4428	13-08-2007	3965	1974	2144	-	-
22	4633	08-04-2013	4194	1952	1894.7	-	-
23	4641	21-09-2013	4469	4229	1344	-	-
24	4646	11-11-2013	4330	1957	2054.9	-	-

25	4647	17-11-2013	4446	4264	1878.5	-	-
26	4648	20-11-2013	4434	4264	2031.7	-	-
27	4657	03-02-2014	4455	1957	1668.8	-	-
28	4661	25-03-2014	4523	4403	1195.3	-	-
29	4663	30-04-2014	4184	1955	1762.1	-	-
30	4668	10-06-2014	4405	4323	1576.9	-	-
31	4669	16-06-2014	4569	4392	1462.9	-	-
32	4677	20-08-2014	4127	1948	1610	-	-
33	4680	09-09-2014	4520	4403	1564.5	-	-
34	4682	16-09-2014	4514	4403	1399.4	-	-
35	4685	22-09-2014	4166	1950	1637	-	-
36	4686	25-09-2014	4469	4229	1344	-	-
37	4689	13-10-2014	4176	1952	1709	-	-
38	4690	22-10-2014	4330	1957	2054.9	-	-
39	4704	06-09-2015	4494	1956	1377.6	-	-
40	4707	10-09-2005	4555	1961	705.5	-	-
41	4709	28-09-2015	4455	1948	1668.8	-	-
42	4712	31-10-2015	4446	1950	1878.5	-	-
43	4713	04-11-2015	4537	1950	602.2/157	-	-
44	4715	22-12-2015	4409	1950	1711.1	-	-
45	4716	15-02-2016	4533	1956	875.8	-	-

9.21Target achieved during the year 2015-16

Sr. No.	Trait	Target	Achieved
1.	Av. Age at first service (months)	28	32.74
2.	Av. age at first calving	40	46.29
3.	Av. age for initiating training of bulls (months)	20	42.25
4.	Av. age at first collection	32	47.50
5.	Av. service period	130	169.29
6.	Calf mortality (0-3 months)	< 5 %	9.09
7.	Wet average	=>6.5 kg	5.13
8.	Herd average	=>4.0 kg	2.43

Field Unit

F 1. Herd Strength of Registered Females at Different Field Unit Centers during 2015-2016

Center	Opening balance	Addition			Deduction			Closing balance
		Birth	Purchased	New Regtd.	Sold	Death	Reg. Cancelled	
Menar	1134	28	31	0	31	19	0	1143
Rundera	1256	41	31	0	32	23	0	1273
Navania	997	23	43	0	34	28	0	1001
Tarawat	545	21	22	0	21	18	0	549
Vallabhnagar	544	18	21	0	23	16	0	544
Total	4476	131	148	0	141	104	0	4510

F 2. Status of Breedable Females at Different Field Unit Centers during 2015-2016

Center	Heifers >3 years		Buffalo Non Pregnant		Buffalo Pregnant	
	Total	Pregnant	In milk	Dry	In milk	Dry
Menar	249	78	204	108	110	143
Rundera	163	76	209	110	112	133
Navania	194	61	199	112	88	130
Tarawat	106	38	143	96	59	75
Vallabhnagar	66	29	111	61	36	66
Total	778	282	866	487	405	547

F 3. Monthly AI (Center-wise) at Different Field Unit Centers during 4/2015 to 3/2016

Month	Center							Total
	Menar	Rundera	Navania	Tarawat	Vallabhnagar	Dhamania	Bhopalpura	
April 15	7	16	7	5	2	8	0	45
May 15	10	19	6	9	2	1	0	47
June 15	14	25	7	8	2	5	0	61
July 15	19	24	16	6	0	17	4	86
Aug 15	22	43	26	0	14	80	24	209
Sept 15	45	65	46	34	23	84	21	318
Oct 15	46	101	62	27	23	43	17	319
Nov. 15	39	55	50	25	29	21	10	229
Dec 15	44	76	39	14	0	22	5	200
Jan 16	38	75	40	17	0	29	17	216
Feb 16	25	56	25	11	0	30	7	154
March 16	16	52	25	7	0	1	1	102
Total	325	607	349	163	95	341	106	1986

F 4. Bull-wise AI at Different Field Unit Centers during the Period 4/2015 to 3/2016

Month	Bull No.							Total
	4373	4392	4403	4413	4429	4458	4497	
April 15	7	0	0	0	0	38	0	45
May 15	18	0	0	0	0	29	0	47
June 15	23	0	0	0	0	25	13	61
July 15	24	0	0	6	0	22	34	86
Aug 15	4	0	0	57	12	16	120	209
Sept 15	15	0	28	18	32	23	202	318
Oct 15	101	13	1	71	51	16	66	319

Nov. 15	10	9	33	98	0	79	0	229
Dec 15	14	30	17	1	0	133	5	200
Jan 16	49	0	0	66	15	75	11	216
Feb 16	73	24	0	6	40	11	0	154
March 16	8	62	0	20	10	2	0	102
Total	346	138	79	343	160	469	451	1986

F 5. Month-wise Conception at Different Field Unit Centres during the period 4/2015 to 3/2016

Month	Center							Total
	Menar	Rundera	Navania	Tarawat	Vallabhnagar	Dhamania	Bhopalpura	
Jan 15	8	10	5	6	1	12	0	42
Feb 15	4	9	4	3	2	7	0	29
March 15	2	8	3	4	1	6	0	24
April 15	0	5	7	2	0	2	0	16
May 15	3	6	0	9	1	1	0	20
June 15	4	5	1	2	1	3	0	16
July 15	4	7	1	1	0	4	1	18
Aug 15	5	16	5	0	3	13	8	50
Sept 15	8	27	13	9	6	27	6	96
Oct 15	10	42	22	8	4	12	6	104
Nov. 15	9	24	20	7	8	9	4	81
Dec 15	12	20	12	5	0	9	2	60
Total	69	179	93	56	27	105	27	556

F 6. Month-wise Calving at Different Field Unit Centres during the Period 4/2015 to 3/2016

Month	Center												Total	
	Menar		Rundera		Navania		Tarawat		Vallabhnagar		Dhamania			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April 15	1	0	0	0	2	0	0	0	0	0	1	0	4	0
May 15	1	1	1	0	2	0	1	2	1	0	0	5	6	8
June 15	2	3	4	7	3	1	3	1	0	1	2	1	14	14
July 15	2	4	8	7	8	1	7	3	0	1	10	8	33	24
Aug 15	4	2	6	8	5	3	2	1	3	0	9	6	29	20
Sept 15	4	2	5	9	6	3	4	0	3	2	8	6	30	22
Oct 15	3	5	9	6	3	3	3	4	1	1	7	3	26	22
Nov. 15	4	3	5	2	2	2	4	2	1	0	4	5	20	14
Dec 15	1	2	5	2	1	1	2	1	1	1	4	2	14	9
Jan 16	2	1	4	0	1	1	3	1	1	0	4	1	15	4
Feb 16	0	0	1	1	0	1	1	1	0	0	1	1	3	4
March 16	1	0	3	2	0	0	1	1	1	0	0	1	6	4
Total	25	23	51	34	33	16	31	17	12	6	50	39	200	145

F 7. Bull-wise Conception at Different Field Unit Centres during the Period 04/2015 to 3/2016

Month	Bull No.							Total
	4373	4392	4403	4413	4429	4458	4497	
Jan 15	33	0	1	2	0	6	0	42
Feb 15	26	0	0	1	0	2	0	29
March 15	6	0	0	0	0	18	0	24
April 15	2	0	0	0	0	14	0	16
May 15	11	0	0	0	0	9	0	20
June 15	6	0	0	0	0	6	4	16
July 15	5	0	0	2	0	2	9	18
Aug 15	1	0	0	19	3	4	23	50
Sept 15	6	0	7	7	5	6	65	96
Oct 15	36	4	0	19	20	3	22	104
Nov. 15	4	3	6	40	0	28	0	81
Dec 15	8	5	8	1	0	37	1	60
Total	144	12	22	91	28	135	124	556

F 8. Bull-wise Calving at Different Field Unit Centres during the Period 4/2015 to 3/2016

Month	Bull No.																Total	
	4373		4392		4403		4413		4429		4458		4464		4497			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April 15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0
May 15	0	0	1	0	1	0	2	0	2	8	0	0	0	0	0	0	6	8
June 15	0	0	0	3	0	1	9	5	5	5	0	0	0	0	0	0	14	14
July 15	0	0	11	7	5	3	7	5	10	9	0	0	0	0	0	0	33	24
Aug 15	0	0	4	1	12	5	3	4	10	10	0	0	0	0	0	0	29	20
Sept 15	0	0	7	4	13	7	9	10	1	1	0	0	0	0	0	0	30	22
Oct 15	4	1	0	3	1	1	13	9	8	6	0	2	0	0	0	0	26	22
Nov. 15	14	12	0	0	1	0	1	0	0	0	4	2	0	0	0	0	20	14
Dec 15	9	6	0	0	0	0	0	1	0	0	5	2	0	0	0	0	14	9
Jan 16	4	2	0	0	0	0	0	0	0	0	11	2	0	0	0	0	15	4
Feb 16	1	1	0	0	0	0	0	0	0	0	2	3	0	0	0	0	3	4
March 16	2	2	0	0	0	0	0	0	0	0	4	2	0	0	0	0	6	4
Total	34	24	23	18	33	17	44	34	40	39	26	13	0	0	0	0	200	145

F 9. Bull-wise Live Female Progeny at Different Field Unit Centres (0-6M) as on 3/2016

Centre	Bull No.					Total
	4373	4392	4413	4429	4458	
Menar	3	0	0	0	4	7
Rundera	2	0	9	0	2	13
Navania	2	0	1	0	1	4
Tarawat	6	3	0	0	0	9
Vallabhnagar	0	0	0	0	0	0
Dhamania	7	0	0	2	2	11
Total	20	3	10	2	9	44

F 10. Bull-wise Live Female Progeny at Different Field Unit Centres (6-12M) as on 3/2016

Centre	Bull No.				Total
	4392	4403	4413	4429	
Menar	2	0	6	4	12
Rundera	10	0	10	6	26
Navania	2	2	3	1	8
Tarawat	1	1	0	5	7
Vallabhnagar	0	4	0	0	4
Dhamania	1	6	0	13	20
Total	16	13	19	29	77

F 11. Bull-wise Live Female Progeny at Different Field Unit Centres (1-3 years) as on 3/2016

Centre	Bull No.									Total
	4203	4229	4264	4299	4392	4403	4413	4429	4323	
Menar	4	3	5	6	3	5	3	4	0	33
Rundera	6	5	13	6	3	7	14	1	0	55
Navania	3	1	5	1	4	11	0	0	2	27
Tarawat	4	0	1	2	0	10	0	1	0	18
Vallabhnagar	0	7	0	2	0	4	0	0	0	13
Dhamania	2	7	6	4	6	3	0	0	0	28
Total	19	23	30	21	16	40	17	6	2	174

F 12. Bull-wise Live Female Progeny at Different Field Unit Centres (>3 years) as on 3/2016

Centre	Bull No.												Total
	1974	1975	1976	1977	1978	4203	4299	4264	4299	4302	4321	4323	
Menar	0	0	1	0	0	2	9	1	6	1	1	2	23
Rundera	1	0	0	0	2	2	7	9	1	2	1	3	28
Navania	0	1	0	1	1	2	6	6	10	3	1	3	34
Tarawat	0	0	0	0	0	1	1	3	1	0	2	0	8
Vallabhnagar	0	0	2	2	2	3	0	0	2	0	1	0	12
Dhamania	0	0	0	0	0	1	3	2	1	0	0	1	8
Total	1	1	3	3	5	11	26	21	21	6	6	9	113

F 12.1. Center and Age-wise Live female Progeny as on 3/2016

Center	Age				Total
	0-6M	6-12M	1-3yr	>3yr	
Menar	7	12	33	23	75
Rundera	13	26	55	28	122
Navania	4	8	27	34	73
Tarawat	9	7	18	8	42
Vallabhnagar	0	4	13	12	29
Dhamania	11	20	28	8	67
Total	44	77	174	113	408

F 13. Bull-wise Daughters Calved at Different Field Unit Centres during 2015-2016

Bull No.	Center					Total
	Menar	Rundera	Navania	Tarawat	Vallabhnagar	
1974	0	0	1	1	0	2
1975	1	0	1	1	0	3
1976	1	0	0	0	0	1
1977	1	0	1	1	1	4
1978	1	1	1	0	0	3
4203	0	1	1	0	0	2
4229	1	2	2	1	0	6
4264	1	1	3	1	1	7
4299	0	1	4	0	1	6
4302	0	1	1	0	0	2
Total	6	7	15	5	3	36

F 14. Bull-wise Daughters Recorded at Different Field Unit Centres during 2015-2016

Name of village	Bull no.	Daughter no.	Date of birth	Monthly milk recorded										
Menar	1974	C-1004	22/10/2007	DOR	18.02.15	19.03.15	18.04.15	18.05.15	17.06.15	17.07.15	18.08.15	17.09.15	17.10.15	18.11.15
				M	1.8	2.3	2.6	2.9	3.4	3.7	2.8	2.4	1.9	1.5
				E	1.6	1.9	2.2	2.4	2.7	2.9	2.3	2.0	1.6	1.4
				Total	3.4	4.2	4.8	5.3	6.1	6.6	5.1	4.4	3.5	2.9
	1976	C-1128	15/09/2009	DOR	16.06.14	14.07.14	17.08.14	17.09.14	18.10.14	18.11.14	17.12.14	17.01.15	18.02.15	19.03.15
				M	2.5	3.0	3.5	3.5	3.0	2.5	2.1	2.9	2.4	2.0
				E	2.0	2.0	2.0	2.5	2.1	2.0	1.6	0	0	0
				Total	4.5	5.0	5.5	6.0	5.1	4.5	3.7	2.9	2.4	2.0
		C-1212	29/09/2010	DOR	17.09.14	18.10.14	18.11.14	17.12.14	17.01.15	18.02.15	19.03.15	18.04.15	18.05.15	17.06.15
				M	2.9	3.1	3.5	3.8	3.4	3.2	2.6	2.7	2.4	2.0
				E	2.3	2.6	3.0	3.2	2.7	2.6	2.2	2.3	2.0	1.7
				Total	5.2	5.7	6.5	7.0	6.1	5.8	4.8	5	4.4	3.7
	1977	C-1150	01/11/2009	DOR	18.02.15	19.03.15	18.04.15	18.05.15	17.06.15	17.07.15	18.08.15	17.09.15	17.10.15	18.11.15
				M	2.6	2.8	3.0	3.2	3.4	2.8	2.6	2.9	2.4	2.1
				E	2.2	2.4	2.5	2.7	2.9	2.6	2.3	0	0	0
				Total	4.8	5.2	5.5	5.9	6.3	5.4	4.9	2.9	2.4	2.1
	1978	C-1192	16/06/2010	DOR	17.08.14	17.09.14	18.10.14	18.11.14	17.12.14	17.01.15	18.02.15	19.03.15	18.04.15	18.05.15
				M	1.6	2.9	3.4	3.8	3.8	3.5	3.2	2.8	2.4	1.9
				E	1.4	2.3	2.9	3.3	3.2	2.9	2.4	2.4	2.0	1.5
				Total	3.0	5.2	6.3	7.1	7.0	6.4	5.6	5.2	4.4	3.4
		C-1202	17/07/2010	DOR	17.08.14	17.09.14	18.10.14	18.11.14	17.12.14	17.01.15	18.02.15	19.03.15	18.04.15	18.05.15
				M	1.8	2.9	2.8	3.0	2.7	2.5	2.4	2.1	1.9	1.6
				E	1.5	2.7	2.4	2.8	2.5	2.4	2.0	1.7	1.5	1.4
				Total	3.3	5.6	5.2	5.8	5.2	4.9	4.4	3.8	3.4	3.0
Rundera	1975	B-1395	26/06/2010	DOR	12.10.14	13.11.14	12.12.14	14.01.15	19.02.15	20.03.15	19.04.15	19.05.15	18.06.15	17.07.15
				M	2.1	2.6	2.9	2.7	2.7	2.6	2.4	2.3	2.0	1.9
				E	1.8	2.2	2.6	2.4	2.3	2.4	2.2	2.0	1.8	1.6
				Total	3.9	4.8	5.5	5.1	5.0	5.0	4.6	4.3	3.8	3.5
		B-1400	17/07/2010	DOR	08.09.14	12.10.14	13.11.14	12.12.14	14.01.15	19.02.15	20.03.15	19.04.15	19.05.15	18.06.15
				M	1.7	2.1	2.3	2.5	2.3	2.8	2.4	2.2	2.0	1.6
				E	1.5	1.8	2.0	2.2	1.9	2.4	2.0	1.9	1.7	1.4
				Total	3.2	3.9	4.3	4.7	4.2	5.2	4.4	4.1	3.7	3.0
	1978	B-1349	22/10/2009	DOR	12.12.14	14.01.15	19.02.15	20.03.15	19.04.15	19.05.15	18.06.15	18.06.15	17.07.15	19.08.15
				M	1.8	2.2	2.4	2.8	2.6	2.9	2.7	2.5	2.4	2.1
				E	1.6	1.7	1.9	2.2	2.4	2.6	2.3	2.2	2.1	1.7

				Total	3.4	3.9	4.3	5.0	5.0	5.5	5.0	4.7	4.5	3.8
		B-1386	08/06/2010	DOR	12.12.14	14.01.15	19.02.15	20.03.15	19.04.15	19.05.15	18.06.15	18.06.15	17.07.15	19.08.15
				M	1.7	2.0	2.3	2.6	2.9	3.2	2.8	2.6	2.3	1.9
				E	1.4	1.7	1.9	2.2	2.6	2.7	2.3	2.1	1.8	1.5
				Total	3.1	3.7	4.2	4.8	5.5	5.9	5.1	4.7	4.1	3.4
		B-1416	12/08/2010	DOR	12.10.14	13.11.14	12.12.14	14.01.15	19.02.15	20.03.15	19.04.15	19.05.15	18.06.15	17.07.15
				M	2.1	2.6	2.9	2.7	2.7	2.6	2.4	2.3	2.0	1.8
				E	1.8	2.2	2.6	2.4	2.3	2.4	2.2	2.0	1.8	1.6
				Total	3.9	4.8	5.5	5.1	5.0	5.0	4.6	4.3	3.8	3.4
	4229	B-1510	05/01/2011	DOR	14.08.14	08.09.14	12.10.14	13.11.14	12.12.14	14.01.15	19.02.15	20.03.15	19.04.15	19.05.15
				M	1.8	2.1	2.3	2.6	2.8	2.3	2.1	2.0	1.8	1.7
				E	1.4	2.7	2.8	2.3	2.4	2.0	1.8	1.7	1.6	1.4
				Total	3.2	4.8	5.1	4.9	5.2	4.3	3.9	3.7	3.4	3.1
Navania	1976	A-763	27/07/2009	DOR	15.09.14	15.10.14	14.11.14	14.12.14	18.01.15	20.02.15	23.03.15	21.04.15	23.05.15	23.06.15
				M	1.4	1.7	1.9	2.2	2.4	2.7	3.1	2.6	2.2	1.7
				E	1.2	1.5	1.6	2.0	2.1	2.4	2.8	2.3	1.9	1.5
				Total	2.6	3.2	3.5	4.2	4.5	5.1	5.9	4.9	4.1	3.2
	1977	A-799	31/08/2009	DOR	13.08.14	15.09.14	15.10.14	14.11.14	14.12.14	18.01.15	20.02.15	23.03.15	21.04.15	23.05.15
				M	1.5	1.7	1.9	2.3	2.6	2.9	2.7	2.4	2.0	1.6
				E	1.2	2.4	1.6	2.0	2.2	2.4	2.3	2.1	1.7	1.4
				Total	2.7	4.1	3.5	4.3	4.8	5.3	5.0	4.5	3.7	3.0
		A-959	24/09/2010	DOR	13.08.14	15.09.14	15.10.14	14.11.14	14.12.14	18.01.15	20.02.15	23.03.15	21.04.15	23.05.15
				M	1.1	1.4	2.0	2.2	2.7	3.1	2.8	2.5	2.3	1.7
				E	0.7	1.2	1.7	1.9	2.3	2.8	2.6	2.2	1.8	1.4
				Total	1.8	2.6	3.7	4.1	5.0	5.9	5.4	4.7	4.1	3.1
	1978	A-700	25/09/2008	DOR	13.07.14	13.08.14	15.09.14	15.10.14	14.11.14	14.12.14	18.01.15	20.02.15	23.03.15	21.04.15
				M	1.4	1.7	1.9	2.1	2.4	2.7	3.0	2.6	2.2	1.8
				E	1.2	1.4	1.6	1.8	2.0	2.5	2.7	2.3	1.9	1.6
				Total	2.6	3.1	3.5	3.9	4.4	5.2	5.7	4.9	4.1	3.4
		A-734	07/12/2008	DOR	15.10.14	14.11.14	14.12.14	18.01.15	20.02.15	23.03.15	21.04.15	23.05.15	23.06.15	24.07.15
				M	1.6	1.9	2.3	2.6	3.0	2.8	2.6	2.4	1.9	1.6
				E	1.4	1.7	2.0	2.2	2.4	2.5	2.3	2.1	1.7	1.3
				Total	3.0	3.6	4.3	4.8	5.4	5.3	4.9	4.5	3.6	2.9
		A-913	17/08/2010	DOR	18.01.15	20.02.15	23.03.15	21.04.15	23.05.15	23.06.15	24.07.15	23.08.15	22.09.15	23.10.15
				M	1.5	1.8	2.2	2.6	2.7	2.9	2.8	2.6	2.2	2.0
				E	1.3	1.6	1.9	2.3	2.4	2.5	2.4	2.2	2.0	1.6
				Total	2.8	3.4	4.1	4.9	5.1	5.4	5.2	4.8	4.2	3.6
	4229	A-976	08/10/2010	DOR	13.06.14	13.07.14	13.08.14	15.09.14	15.10.14	14.11.14	14.12.14	18.01.15	20.02.15	23.03.15

				M	1.7	1.9	2.2	2.5	2.6	2.9	3.2	3.0	2.6	2.3
				E	1.4	1.6	2.0	2.1	2.3	2.5	2.6	2.7	2.2	1.8
				Total	3.1	3.5	4.2	4.6	4.9	5.4	5.8	5.7	4.8	4.1
	4299	A-1087	16/09/2011	DOR	13.08.14	15.09.14	15.10.14	14.11.14	14.12.14	18.01.15	20.02.15	23.03.15	21.04.15	23.05.15
				M	1.4	1.6	1.8	2.2	2.7	2.8	3.0	2.6	2.3	2.0
				E	1.1	1.3	1.7	1.9	2.3	2.4	2.7	2.4	2.0	1.6
				Total	2.5	2.9	3.5	4.1	5.0	5.2	5.7	5.0	4.3	3.6
Vallabhnagar	1976	G-20	02/09/2010	DOR	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15	08.05.15	09.06.15	08.07.15	10.08.15	08.09.15
				M	2.1	2.4	2.8	3.2	3.6	3.3	2.8	2.4	2.1	1.9
				E	1.7	1.9	2.2	2.5	2.8	2.7	2.3	2.0	1.6	1.4
				Total	3.8	4.3	5.0	5.7	6.4	6.0	5.1	4.4	3.7	3.3
	1977	G-50	08/08/2008	DOR	08.10.14	09.11.14	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15	08.05.15	09.06.15	08.07.15
				M	1.7	1.9	2.5	2.9	3.2	3.5	2.7	2.3	2.0	1.5
				E	1.5	1.7	2.3	2.4	2.7	3.1	2.4	2.0	1.7	1.2
				Total	3.2	3.6	4.8	5.3	5.9	6.6	5.1	4.3	3.7	2.7
		G-71	12/04/2010	DOR	08.07.14	07.08.14	09.09.14	08.10.14	09.11.14	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15
				M	1.2	2.4	2.5	2.8	2.7	2.9	3.2	3.4	2.4	2.2
				E	1.1	2.2	2.4	2.4	2.6	2.8	2.7	3.0	2.3	2.1
				Total	2.3	4.6	4.9	5.2	5.3	5.7	5.9	6.4	4.7	4.3
		G-133	22/05/2010	DOR	07.08.14	09.09.14	08.10.14	09.11.14	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15	08.05.15
				M	1.8	1.6	1.8	2.2	2.3	2.7	2.6	2.2	1.8	1.6
				E	1.7	1.4	1.6	1.9	2.0	2.5	2.4	2.0	1.4	1.5
				Total	3.5	3.0	3.4	4.1	4.3	5.2	5.0	4.2	3.2	3.1
	1978	G-135	25/06/2010	DOR	09.09.14	08.10.14	09.11.14	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15	08.05.15	09.06.15
				M	2.1	2.3	2.1	2	1.8	1.8	2.1	1.9	1.6	1.2
				E	1.8	2.0	2.0	1.7	2.5	1.9	2.0	1.7	1.3	1.1
				Total	3.9	4.3	4.1	3.7	4.3	3.7	4.1	3.6	2.9	2.3
		G-26	19/07/2010	DOR	08.10.14	09.11.14	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15	08.05.15	09.06.15	08.07.15
				M	1.4	1.8	2.3	2.5	2.9	2.7	2.8	2.0	1.7	1.6
				E	1.0	1.6	2.6	2.8	2.5	2.4	2.3	2.4	1.9	1.2
				Total	2.4	3.4	4.9	5.3	5.4	5.1	5.1	4.4	3.6	2.8
		G-59	28/07/2010	DOR	08.10.14	09.11.14	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15	08.05.15	09.06.15	08.07.15
				M	2.4	2.5	2.8	2.7	2.6	2.2	2.3	2.1	1.8	1.3
				E	2.3	2.2	2.5	2.8	2.0	2.4	1.8	1.6	1.7	1.2
				Total	4.7	4.7	5.3	5.5	4.6	4.6	4.1	3.7	3.5	2.5
	4203	G-108	27/06/2011	DOR	08.12.14	09.01.15	07.02.15	08.03.15	07.04.15	08.05.15	09.06.15	08.07.15	10.08.15	08.09.15
				M	2.3	2.6	2.9	3.4	3.6	3.0	2.6	2.3	2.1	1.5
				E	2.0	2.2	2.3	3.0	3.2	2.4	2.1	1.8	1.4	1.2

				Total	4.3	4.8	5.2	6.4	6.8	5.4	4.7	4.1	3.5	2.7
	4264	G-169	26/06/2012	DOR	08.05.15	09.06.15	08.07.15	10.08.15	08.09.15	10.10.15	08.11.15	08.12.15	09.01.16	07.02.16
				M	1.8	2.6	2.9	3.3	3.2	2.5	2.1	1.5	1.3	1.2
				E	1.5	2.3	2.7	3.0	2.8	2.4	2.0	1.2	1.1	1.0
				Total	3.3	4.9	5.6	6.3	6.0	4.9	4.1	2.7	2.4	2.2
Tarawat	1972	D-507	02/08/2008	DOR	18.03.15	17.04.15	17.05.15	16.06.15	16.07.15	17.08.15	16.09.15	17.10.15	16.11.15	17.12.15
				M	1.4	1.7	2.0	2.3	2.7	3.2	3.5	2.8	2.4	1.7
				E	1.2	1.5	1.7	1.9	2.3	2.7	2.9	2.7	2.2	1.4
				Total	2.6	3.2	3.7	4.2	5.0	5.9	6.4	5.5	4.6	3.1
	1974	D-646	07/09/2010	DOR	16.01.15	17.02.15	18.03.15	17.04.15	17.05.15	16.06.15	16.07.15	17.08.15	16.09.15	17.10.15
				M	1.3	1.6	1.9	2.1	2.4	2.6	2.9	2.8	2.3	1.9
				E	1.1	1.4	1.7	1.9	2.0	2.3	2.4	2.6	2.0	1.6
				Total	2.4	3.0	3.6	4.0	4.4	4.9	5.3	5.4	4.3	3.5
	1975	D-623	24/07/2010	DOR	16.01.15	17.02.15	18.03.15	17.04.15	17.05.15	16.06.15	16.07.15	17.08.15	16.09.15	17.10.15
				M	1.5	2.0	2.3	2.6	2.8	2.6	2.4	2.2	2.0	1.6
				E	1.1	1.6	1.8	2.0	2.3	2.2	2.3	1.9	1.7	1.4
				Total	2.6	3.6	4.1	4.6	5.1	4.8	4.7	4.1	3.7	3.0

F 15. Bull wise AI, Conception, Calving and Daughters Retained till completion of milk recording during the year

Bull No. / Set No.	Total AI	Conception	Calving		Daughters retained up to				
			Total	Female	1 year	2 year	3 years	Calving	Complete recording
1948/I	43	20	18	6	0	0	0	0	0
1949/I	0	0	0	0	0	0	0	0	0
1950/II	2	0	0	0	0	0	0	0	0
1951/II	87	20	17	10	0	0	0	1	1
1952/II	58	18	18	8	0	0	0	0	0
1953/II	50	12	8	1	0	0	0	1	1
1954/II	65	13	11	4	0	0	0	1	1
1955/III	499	105	84	38	0	0	0	16	13
1956/III	523	128	86	35	0	0	0	10	10
1957/III	952	183	157	60	0	0	0	14	12
1958/III	572	135	108	46	0	0	0	9	8
1959/III	573	141	112	58	0	0	0	10	10
1960/III	15	4	1	0	0	0	0	0	0
1961/III	705	187	143	60	0	0	0	17	17
1962/III	88	13	9	5	0	0	0	2	2
1963/IV	842	222	168	70	0	0	0	10	10
1964/IV	489	144	118	54	0	0	0	11	10
1965/IV	578	152	120	49	0	0	0	9	9
1966/IV	373	80	72	36	0	0	0	10	9
1967/IV	423	112	77	33	0	0	0	6	6
1968/IV	752	222	178	79	0	0	0	13	13
1969/IV	950	270	221	86	0	0	0	11	11
1970/IV	130	34	24	12	0	0	0	3	3
1971/V	336	93	77	31	16	13	9	3	3
1972/V	363	117	90	37	35	28	18	5	5
1973/V	388	122	108	43	37	33	28	7	7
1974/V	877	296	230	94	68	60	53	18	16
1975/V	954	298	236	106	66	59	75	17	12
1976/V	1322	401	329	135	104	92	75	15	11
1977/V	1490	469	379	157	121	103	109	24	20
1978/V	1821	634	507	222	167	160	127	35	29
4203/VI	935	322	247	101	65	50	43	3	1
4229/VI	1776	571	418	180	114	55	63	8	2
4264/VI	1579	514	396	174	119	79	52	7	1
4299/VI	1477	466	343	153	84	73	56	7	1
4302/VI	543	176	129	57	39	46	25	2	0
4321/VI	226	67	49	22	20	20	1	0	0
4323/VI	359	95	89	38	37	35	1	0	0
4373/VII	568	151	58	24	0	0	0	0	0
4392/VII	531	131	97	41	0	0	0	0	0
4403/VII	1130	362	252	87	0	0	0	0	0
4413/VII	869	257	140	58	0	0	0	0	0
4429/VII	602	162	99	46	0	0	0	0	0
4458/VII	574	137	39	13	0	0	0	0	0
4497/VII	451	124	0	0					
TOTAL	**27960**	**8180**	**5917**	**2569**	**1092**	**906**	**735**	**305**	**254**

Performance of FPT Programme since Inception

Duration	AI	Pregnancies	CR%	Calvings	Females Born	Daughters Recorded	Av. AFC (months)	Av. Milk Yield (kg/day)	Daughters Due for Recording
2001-02	2256	477	21.14	393	165	50	67.15	4.10	-
2002-03	1850	472	25.51	362	159	49	65.44	3.87	-
2003-04	1980	471	23.79	352	167	50	63.68	4.08	-
2004-05	1861	551	29.61	445	186	29	64.46	4.27	-
2005-06	1717	536	31.22	446	170	33	62.12	4.45	-
2006-07	1637	506	30.91	411	162	36	57.06	4.64	-
2007-08	1811	542	29.93	420	184	18	57.14	4.74	-
2008-09	1804	604	33.48	502	218	15	52.90	4.19	2(3)
2009-10	1975	671	33.97	529	224	14	48.46	4.37	4(4)
2010-11	2038	681	33.42	458	203	19	49.62	4.42	13(7)
2011-12	2023	520	25.70	475	226	2	35.95	4.49	37(10)
2012-13	1897	583	30.73	497	198	1	33.9	4.24	57(2)
2013-14	1591	555	34.88	410	158	-	-	-	79
2014-15	1534	455	29.66	409	156	-	-	-	95
2015-16	1986	556	27.99	345	145	-	-	-	121
Overall	27960	8180	29.25	6454	2721	316	-	-	408(26)

AI, Conception, Calvings and Daughters Retained (Set wise) 1st set

Particulars	Bull No.		
	1948 (I)	1949 (I)	Total
AI	43	-	43
Pregnancies	20	-	20
Daughters Born	6	-	6
Daughters Calved	-	-	-
Complete Recording	-	-	-
Daughters Available	-	-	-

AI, Conception, Calvings and Daughters Retained (Set wise) 2nd set

Particulars	Bull No.					
	1950 II	1951 II	1952 II	1953 II	1954 II	Total
AI	2	87	58	50	65	262
Pregnancies	-	20	18	12	13	63
Daughters Born	-	10	8	1	4	23
Daughters Calved	-	1	-	1	1	3
Complete Recording	-	1	-	1	1	3
Daughters Available	-	-	-	-	-	-

AI, Conception, Calvings and Daughters Retained – 3rd Set

Particulars	Bull No.								
	1955 III	1956 III	1957 III	1958 III	1959 III	1960 III	1961 III	1962 III	Total
AI	499	523	952	572	573	15	705	88	3927
Pregnancies	105	128	183	135	141	4	187	13	896
Daughters Born	38	35	60	46	58	0	60	5	302
Daughters Calved	16	10	14	9	10	-	17	2	78
Complete Recording	13	10	12	8	10	-	17	2	72
Daughters Available	-	-	-	-	-	-	-	-	-

AI, Conception, Calvings and Daughters Retained 4th Set

Particulars	Bull No.								
	1963 IV	1964 IV	1965 IV	1966 IV	1967 IV	1968 IV	1969 IV	1970 IV	Total
AI	842	489	578	373	423	752	950	130	4537
Pregnancies	222	144	152	80	112	222	270	34	1236
Daughters Born	70	54	49	36	33	79	86	12	419
Daughters Calved	10	11	9	10	6	13	11	3	73
Complete Recording	10	10	9	9	6	13	11	3	71
Daughters Available	0	0	0	0	0	0	0	0	0

AI, Conception, Calvings and Daughters Retained –5th Set

Particulars	Bull No.								
	1971 V	1972 V	1973 V	1974 V	1975 V	1976 V	1977 V	1978 V	Total
AI	336	363	388	877	954	1322	1490	1821	7551
Pregnancies	93	117	122	296	298	401	469	634	2430
Daughters Born	31	37	43	94	106	135	157	222	825
Daughters Calved	3	5	7	18	17	15	24	35	124
Complete Recording	3	5	7	16	12	11	20	29	103
Daughters Available	-	-	-	1(2)	1(2)	3(1)	3(2)	5(2)	13(9)

AI, Conception, Calvings and Daughters Retained –6th Set

Particulars	Bull No.								
	4203 VI	4224 VI	4229 VI	4264 VI	4299 VI	4302 VI	4321 VI	4323 VI	Total
AI	935	-	1776	1579	1477	543	226	359	6895
Pregnancies	322	-	571	514	466	176	67	95	2211
Daughters Born	101	-	180	174	153	57	22	38	725
Daughters Calved	3	-	8	7	7	2	-	-	27
Complete Recording	1	-	2	1	1	-	-	-	5
Daughters Available	30(2)	-	49(5)	51(5)	40(4)	8(1)	6	11	195(17)

AI, Conception, Calvings and Daughters Retained –7th Set

Particulars	Bull No.							
	4373 VII	4392 VII	4403 VII	4413 VII	4429 VII	4458 VII	4497 VII	Total
AI	568	531	1130	889	602	574	451	4745
Pregnancies	151	131	362	257	162	137	124	1324
Daughters Born	24	41	87	58	46	13	-	269
Daughters Calved	-	-	-	-	-	-	-	-
Complete Recording	-	-	-	-	-	-	-	-
Daughters Available	20	35	52	47	37	9	-	200

Set wise AI, Conception and daughters retained

Set No.	No. of Bulls	AI	Preg	Calving		Daughters Retained						
				Total	F	Up to 1Year	Up to 2 Year	Up to 3 Year	Daughters Recorded	Av. AFC (month)	Av. Milk Yield (kg/day)	Daughters to be Recorded
1	2	43	20	18	6	-	-	-	-	-	-	-
2	5	262	63	54	23	1	1	1	3	67.28/3	3.8	-
3	8	3927	896	700	302	0	0	0	72	74.13/76	3.97	-
4	8	4537	1236	978	419	0	0	0	71	65.77/72	4.17	-
5	8	7551	2430	1956	825	614	548	494	103			13(10)
6	7	6895	2211	1671	725	478	358	241	5			195(17)
7	8	4745	1324	685	269					-	-	200

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E 14-15		Released ICAR	Expenditure as per AUC		Balance
Total	ICAR Share	Share as per R E	ICAR Share	State Share	
67.0000	50.25	50.25	AUC not received		

Herd Performance

Herd strength was 113 heads against 133 in 2014-15 comprising 50 breedable buffaloes (> 2.0 years) 22 calves were born during the period and 0 – 3 months calf mortality was 9.09 % reduced from 15.56 % of last year. Male calves of > 2 years were 20 at the farm. The female conception rate was 37.5% (24/64) at the farm similar to previous year (38.18%). During the report period 11885 semen doses were produced from VI, VII and VIII set of bulls and 2921 doses of semen from VII & VIII set bulls were used in field. 47501 frozen semen doses is available in stock. Test mating and semen freezing completed from the first seven sets. Evaluation of first four sets of bulls completed.

Production performance

Average lactation yield and 305 or less day lactation yield were 1624±77.97 kg and 1477±58.40 kg, respectively and showed improvement over previous year. Age at first calving, Service Period, Dry Period and calving Interval were 47.01±2.49 months, 169.29±27.39 days (n=19), 192.47±19.78 days (n=19) and 483.74±21.03 days (n=19) respectively. There was increase of about 37 days in calving interval as compared to last year. Wet & herd averages of 5.13 kg and 2.43 kg during the 2015-16. Wet average improved but herd average decreased which indicates poor reproduction also seen by percent animal in milk, as it reduced from 68.77 to 47.90%. Overall mortality is high needs to be attended to.

Field Unit

Total 1986 AI's from 7 bulls were performed at 7 field centers having 4510 registered females. Total 456 buffaloes conceived and 345 calving took place. 44 live female progenies of 0-6 month, 77 of 6-12 months 174 of 1-3 years and 113 progenies of > 3 years was available at field unit centers. Milk recording of the first lactation daughter yield is going on at the different centers and 32 daughter completed recording during the year.

Targets achieved during 2015-16

S. No	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	28 months	32.74	32.05
2.	Av. Age at first calving	40 months	46.29	47.01
3.	Av. Age for initiating training of bulls (months)	20 months	42.25	35.6
4.	Av. Age at first collection	32 months	47.50	-
5.	Av. Service period	130 days	169.29	162
6.	Calf mortality (03 months)	$\leq$ 5%	9.09	15.56
7.	Wet average	$\geq$ 6.5 kg	5.13 kg.	4.69
8.	Herd average	$\geq$ 4.0 kg	2.43 kg.	3.22

Recommendations:

After early selection surplus males should be distributed/ disposed off at the earliest. Young breeding male from dam's having < 1700 kg in 305 or less day best lactation yield not to be reared for breeding purpose. Field recording should be strengthened by engaging need based contract workers & provide incentives to the farmers from within the recurring contingencies. All the bulls should be used in equal proportion in the field. Number of AI's per bull to be increased to record 25-30 daughters per bull for progeny testing. Minimum 100 frozen doses for each bull should be kept in stock and not to be exhausted completely. Frozen semen production to be accelerated and completed in minimum time.

Average body weight at all stages has gown down, reason for the same should be delineated. Lower productivity during last 8 years to be analyzed and report exhaustively from analysis of all angles.

The salary of contractual worker (SRF/RA) must be paid from recurring contingencies only.

A table of bull and frozen semen doses sold since inception may be added as per given format:-

Year	bulls sold/supplied to breeders/agencies	Frozen semen doses sold/supplied for breeding

Awareness camp/ breed championship be organized regularly.

ICAR-INDIAN GRASSLAND AND FODDER RESEARCH INSTITUTE, JHANSI

1. **Name of Centre** : IGFRI, Jhansi
2. **Project Code** : 2000000001
3. **Project Title** : Performance recording and improvement of Bhadawari Buffaloes
4. **Date of Start** : 1.04.2001
5. **Objectives** : To undertake genetic improvement and conservation of Bhadawari buffaloes.

6. **Technical Program**: As per the envisaged technical program of Network project on Buffaloes. A herd of 50-60 breedable females of Bhadawari buffaloes are to be maintained under the project. Selection criteria for elite buffaloes will be at least 1500 kg best lactation yield. The herd will be used for production of superior males. Males selected (6-8 numbers) as bull will be used for breeding in the herd as well as in the field through AI. Semen from each of these bulls is to be frozen. To increase the population of Bhadawari buffaloes in the field, frozen semen will be used for breeding in the field. Help of the state Govt. of UP and MP and some other organizations will be sought for distribution and use of Bhadawari semen in the field. Daughter's performance is expected to be recorded from each bull for evaluation of the sires. It is also envisaged to record behavioral aspects for developing optimum management practices as well as information on nutritional aspects for utilizing locally available feed resources available in the semi-arid region (The home tract of Bhadawari buffalo).

Breeding bulls: Initially elite bulls will be provided from the field for elite mating till the first set of bulls is evaluated. Each set of 8 bulls be selected from the males born out of elite mating /procured from field. Bulls will be selected on the basis of Dam's milk production (more than 1600 kg in 305 or less days), reproduction traits and breed characteristics

7. **Financial statement**: Statement showing budget received and amount spent during the period 1.04.2015 to 31.03.2016. (Rs. In Lakhs)

Expenditure head		**Budget allotted**	**Expenditure incurred during financial year 2015-16**
Recurring	TA	0.60	0.51053
	Others	28.00	26.52976
	Sub Total	28.60	27.04029
Non recurring			
	Animal Purchase	Nil	
	Equipment	1.50	1.24740
	Works/ Modification	1.00	Nil
	Sub Total	2.50	1.24740
	Grand Total	31.10	28.28769 (Rupees twenty eight lakhs twenty eight thousand seven hundred sixty nine only)

8. **Staff and Infrastructure Build up during the year:**

S. No.	**Designation**	**No. of post sanctioned**	**Scale**	**No. Of post filled**	**No. Of post vacant**
Scientific					
1.	Sr. Scientist, (Animal Breeding)	1	12000-16000	1	-
2.	Scientist (Rep./Health)	1	8000-12000	-	1
Technical					
3.	T-II-3 (Lab. Tech)	1	4500-7000	-	1
4.	T-II-3 (field farm)	2	4500-7000	-	2
5.	T-I) comp. Operator)	1	3200-4500	-	1
Administrative					
6.	Jr. Clerk	1	3050-4500	-	1

*2 SRF employed w.e.f. May 2015

9. **Herd Performance** :

9.1 Herd Strength during the Period 4/2015 to 3/2016

Category		Addition		Disposal				
Sr. No.		OB	B	T	D	T	S	CB
Female								
1.	Calves 0 – 3 months	2	15		3	11		3
2.	Calves >3 – 12 months	9		11	1	10		9
3.	Heifers							
	1 – 2 years	11		10		11		10
	> 2 years	8		11		3		16
4.	Buffaloes in Milk	28		3			3	28
5.	Buffaloes Dry P /NP	19					4	15
	Sub Total	77	15	35	4	35	7	81
Male								
1.	Calves 0 – 3 months	2	12		2	9	1	2
2.	Calves >3 – 12 months	10		9		5	6	8
3.	Male above							
	1 – 2 years	7		5		4	5	3
	> 2 years	2		4		-	-	6
4.	Breeding bulls	4						4
5.	Bullocks	-						-
6.	Teasers	-						-
	Sub Total	25	12	18	2	18	12	23
	Grand Total	102	27	53	6	53	19	104

OB = Opening Balance D = Deaths S = Sale
B = Births T = Transfer CB = Closing Balance

9.2. Calving Statistics during period 4/2015 to 3/2016

Month	Male		Female		Dystokia		Prolepses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 15	1	3.12							1	3.12			2	6.25
May														
June														
July									1	3.12			1	3.12
August	1	3.12	6	18.7									7	21.87
September	2	6.25	3	9.37							1	3.12	6	18.75
October			1	3.12									1	3.12
November	2	6.25									1	3.12	3	9.37
December	4	12.5	1	3.12									5	15.62
January,16	1	3.12	3	9.37									4	12.5
February											1	3.12	1	3.12
March	1	3.12	1	3.12									2	6.25
Overall	12	37.5	15	46.8					2	6.25	3	9.37	32	100

Sex ratio Male : Female = 44:56

9.3. Disposal of Animals during the Period 4/2015 to 3/2016

Sr. No.		Surplus	Rep. Problem	Weak & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months				3		3
2.	Calves >3 – 12 months				1		1
3.	Heifers 1 – 2 years > 2 years						
4.	Buffaloes in Milk		1+2 (teat blind)				3
5.	Buffaloes Dry P /NP		2	2			4
	Sub Total		5	2	4		11
	Male						
1.	Calves 0 – 3 months	1			2		3
2.	Calves >3 – 12 months	6					6
3.	Male 1 – 2 years > 2 years	5					5
4.	Breeding bulls						
5.	Bullocks						
6.	Teasers						
	Sub Total	12			2		14
	Grand Total	12	5	2	6		25

9.4. Monthwise Mortality during the Period 4/2015 to 3/2016

Month		**Female**						**Male**					Overall Herd
		0-3	3-6	6-12	1-2 Yrs.	Above 2 Yrs.	Overall Female	0-3	3-6	6-12	Above 1 Yrs.	Overall Male	
Overall	No.	17	20				92	14				37	129
	Died	3	1				4	2				2	6
	%	17.6	5.0				4.25	14.2				5.40	4.65

Calf (0-3 months mortality 16.13 % (5/31)

9.5. Causes of Mortality (quarterwise) during the period 4/2015 to 3/2016

Particulars	1st quarter	2nd quarter	3rd quarter	4th quarter
A. Respiratory System :				
1. Pheumo-Enteritis			2	
B. Digestive System :				
1. Enteritis				2
2. Septicamia & Toxaemia		1		
C. Circulatory				
D. Others				
1. Miscellaneous	1			
Total	1	1	2	2

9.9 Prophylactic Measures Taken During the Period 4/2015 to 3/2016

Vaccination	No. of animals Available	Inoculated	Screening	No. of animals Tested	Results	No. of animals treated for Parasitism etc.	
FMD	94	94				Deworming	166
HS	94	94				Dipping	75
BQ	94	94					
RP							
Brucellosis							
TB							
JD							

9.7. Female Conception Rate during the Period 4/2015 to 3/2016

Month	Heifer									First calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR	I	C	CR
Jan. 15	1	-	0	1	1														2	2	100							4	3	75
Feb.	3	2	66.6	1	1					2	1	50	1	1	100				3	3	100							10	8	80
March	1	1	100																3	2	66.6							4	3	75
April										1	-	0																1	-	0
May										1	1	100							1	-	0							2	1	50
June										1	1	100							1	1	100							2	2	100
July																			1	1	100							1	1	100
Aug.																			1	1	100							1	1	100
Sep.										1	1	100																1	1	100
Oct.	1	1	100							3	2	66.6	1	-	0				3	3	100							8	6	75
Nov.										2	1	50	1	1	100				7	5	71.4	1	1	100				11	8	72.7
Dec. 15										2	1	50	1	-	0				4	3	75							7	4	57.1
Total	6	4	66.6	2	2	100				13	8	61.5	4	2	50				26	21	80.7	1	1	100				52	38	73

I = No. of animals inseminated C = No. of animals conceived CR% = Conception rate%

Note: AI performed during calendar year (Jan 2015 to December 2015) are reported

9.8. Bull-wise Conception Rate During the period 4/2015 to 3/2016

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	B-240	14	7	50.0
2.	B-244	20	15	75.0
3.	B-331	18	16	88.8
Total		52	38	73.0

9.9 Bull-wise Semen Stock

Bull No.	Set No	Opening balance	Semen produced /Received	Consumption for AI/ Supplied/sold	Balance
B46		264			264
B76		215			215
B78		179			179
B79		337			337
B84		141			141
B87		368			368
B138		364			364
B122		292			292
B143		400			400
B147		30			30
B150		169			169
B167		275			275
B170		254			254
B182		339			339
B184		291			291
B228		1597		200	1397
B240		1441	4622	1300	4763
B244		667	4227	1900	2994
B331		1172	7885	4885	4172
B333		-	2960	1600	1360
Total		**8795**	**19694**	**9885**	**18604**

9.10 Body weights since inception of Network

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	Heifer (n)	Adult (n)
Female								
2002-03	24.0	43.2	66.3					
2003-04	24.8 (7)	46.4(12)	67.5(9)	118.8(11)	163.8(8)			404 (40)
2004-05	24.1(13)	46.1(12)	64.8(5)	106.7(7)	173.40(15)			409(37)
2005-06	27.3(13)	44.3(10)	63.2(8)	110.8(12)	183.3(11)	225.1		428(46)
2006-07	26.3(11)	44.4(5)	65.0(7)	107.2(8)	166.5(11)	210.4(12)	326.7	434(53)
2007-08	24.7(13)	40.5(16)	62.0(13)	104.1(11)	167.2(5)	230.8(7)	344.8	407(46)
2008-09	26.5(10)	40.9(10)	62.7(11)	108.7(17)	168.2(13)	232.1(14)	326.7	412(65)
2009-10	26.8(18)	41.5(19)	64.8(16)	115.1(16)	169.3(19)	228.0(20)	361.8	434(54)
2010-11	24.5(18)	40.8(13)	60.4(15)	104.8(16)	154.8(13)	206.2(9)	340.8	404(48)
2011-12	26.0(2)	42.6(6)	57.9(11)	108.3(11)	156.9(10)	196.0(10)	290.0	390(50)
2012-13	24.8(9)	43.5(6)	58.0(3)	112.4(2)	160.0	201.4(8)	296.1	395(50)
2013-14	25.4(11)	43.7(7)	67.4(7)	106.8(5)	161.2(4)	192.5(2)	359.8	391(43)
2014-15	24.5(12)	48.7(12)	66.8(11)	105.6(11)	155.8(11)	211.4(6)	376.7	400(53)
2015-16	25.6 (15)	51.8 (11)	79.2(9)	110.5(11)	143.7(8)	205.5(10)	294.8(16)	416(43)

Males								
2002-03	26.8	48.8	68.0					
2003-04	26.9(16)	49.2(14)	74.8(10)	133.2(10)				431(5)
2004-05	24.6(12)	47.0(11)	68.4(7)	115.7(11)				501(4)
2005-06	27.9(25)	46.9(20)	68.6(16)	123.5(10)	203.6(10)	258.0		445(9)
2006-07	27.3(18)	45.0(17)	70.4(17)	115.5(17)	179.7(16)	234.3(10)		460(9)
2007-08	27.7(20)	42.5(20)	67.9(21)	114.1(19)	178.2(14)	234.5(12)		413(15)
2008-09	27.3(10)	43.0(10)	67.8(11)	114.3(18)	180.0(15)	242.5(6)		420(15)
2009-10	27.3(20)	44.2(22)	68.3(19)	116.0(12)	175.0(10)	236.0(11)		423(9)
2010-11	26.2(9)	41.9(11)	65.0(12)	112.7(11)	160.4(5	224.5(4)		416(10)
2011-12	27.4(5)	42.7(6)	60.6(8)	112.0(3)	165.0(1)	-		425(5)
2012-13	25.9(13)	43.6(14)	60.5(10)	116.0(4)	175.0	235.0(3)		457(3)
2013-14	25.8(13)	45.2(9)	70.8(10)	108.3(10)	157.3(6)	195.0(3)		446(2)
2014-15	26.3(18)	50.5(14)	63.6(13)	105.1(6)	158.7(4)	261.0(2)		436(4)
2015-16	26.8(12)	46.1(9)	71.6(6)	122(8)	155.5(8)	230(8)	318.2(6)	470(4)

9.11 Production performance of buffaloes completing their lactation during the period 4/2015 to 3/2016

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	14	1237.67	339	1142.7	5.92
2nd	4	1473.68	320	1421.83	8.15
3rd	3	1535.03	331	1447.30	9.27
4th	2	2146.10	354	1985.65	11.25
5th & above	2	1523.35	267	1523.35	9.15
Overall	25	1406.64	330	1321.8	7.36

Figures in parenthesis indicate number of observations

9.12 Production performance of buffaloes since inception of Network

Year	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
2003-04	1067.95 (24)	296 (24)	1029.41 (24)	6.6 (24)
2004-05	997.96 (29)	245 (29)	958.96 (29)	6.7 (29)
2005-06	891.81 (17)	236.53 (17)	891.81 (17)	6.30 (17)
2006-07	1294.65 (35)	304.49 (35)	1159.22 (35)	6.83 (35)
2007-08	1201.33 (24)	279.29 (24)	1188.92 (24)	6.61 (24)
2008-09	1561.11 (31)	344 (31)	1433.48 (31)	7.41 (31)
2009-10	1331.47 (26)	294.7 (26)	1286.50 (26)	7.5 (26)
2010-11	1381.44 (34)	311.0 (34)	1310.00 (34)	7.22 (34)
2011-12	1276.65 (13)	293.76 (13)	1214.78 (13)	6.19 (13)
2012-13	1587.76 (8)	334 (8)	1494.9 (8)	8.19 (8)
2013-14	1416.3 (21)	294.5 (21)	1385.9 (21)	7.50 (21)
2014-15	1638.8 (21)	367 (21)	1478.3 (21)	7.33 (21)
2015-16	1406.64 (25)	330 (25)	1321.8 (25)	7.36 (25)

9.13 Average Milk components during the period (Month-Wise) 4/2015 to 3/2016

Month	Animal in milk (N)	Av. Fat (%)	SNF	Protein	Lactose
April, 2015	29	8.02	9.47	3.99	5.16
May	26	8.07	9.49	3.99	5.19
June	21	9.10	9.78	4.08	5.03
July	20	7.91	9.30	3.91	5.09
August	26	7.99	9.36	3.96	5.12
September	32	8.27	9.38	3.95	5.05
October	26	7.30	9.12	3.90	5.26
November	28	7.22	9.25	3.95	5.31
December	31	9.5	10.25	4.35	5.40
January, 16	32	9.07	10.06	4.23	5.31
February	32	8.95	9.91	4.16	5.32
March	28	9.12	9.92	4.20	5.28
Overall	28	8.26	9.57	4.05	5.23

9.15 Reproduction Performance of Buffaloes During the Period 4/2015 to 3/2016

Traits	Lactation No.					Overall
	1 Mean ± SE (N)	2 Mean ± SE (N)	3 Mean ± SE (N)	4 Mean ± SE (N)	5 & above Mean ± SE (N)	Mean ± SE (N)
AverageAge at Calving (Months)	47.25 ±2.87(5)					47.25 ±2.87(5)
Average Service Period (Days)	-	218.2 ±28.19(9)	248.2 ±34.5(7)	173.6 ±74.45(3)	174.6 ±58.99(5)	212.3 ±20.47(24)
Average Dry Period (Days)	-	179.8 ±22.95(9)	223.7 ±40.13(7)	205 ±86.7(3)	161.8 ±31.2(5)	192.08 ±18.09(24)
Average Calving Interval (Days)	-	535 ±31.37(9)	549 ±36.11(7)	521 ±108.6(3)	463.8 ±49.23(5)	523 ±22.0(24)

9.17.2 Reproduction Performance of Buffaloes Since inception of Network.

Years	Av. AFC in Months (N)	Av. Service Period in days (N)	Av. Dry Period in days (N)	Av. Calving Interval in days (N)
2003-04	-	137.90 (16)	220.25 (16)	444.5 (16)
2004-05	-	230.33 (24)	269.29 (24)	535.8 (24)
2005-06	-	156.25 (28)	218.46 (28)	463.57 (28)
2006-07	44.60 (5)	166.33 (21)	203.29 (21)	467.33 (21)
2007-08	43.20 (7)	226.73 (26)	216.13 (26)	530.80 (26)
2008-09	51.20 (6)	148.60 (15)	206.8 (15)	499.6 (15)
2009-10	53.22 (10)	167.84 (24)	202.75 (24)	525.79 (24)
2010-11	49.11 (7)	160.00 (20)	222.75 (20)	516.95 (20)
2011-12	49.00 (2)	179.28 (13)	187.92 (13)	497.20 (13)
2012-13	51.32 (12)	153.75 (8)	202.62 (8)	513.25 (8)
2013-14	50.13 (6)	174.90 (11)	214.2 (11)	520.10 (11)
2014-15	53.97 (15)	182.3 (15)	216.4 (15)	534.0 (15)
2015-16	47.25 (5)	212.3 (24)	192.08 (24)	523(24)

9.15 Month wise milk production and disposal during the Period 4/2015 to 3/2016

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 15	3038.0	2657.2	380.8	
May	2708.0	2295.6	412.4	
June	2352.8	1934.4	418.4	
July	2149.6	1958.4	191.2	
August	2782.9	2423.1	359.8	
September	3177.3	2543.8	633.5	
October	3750.0	3162.9	587.1	
November	3541.0	3093.9	447.1	
December	3801.8	3250.8	551.0	
January, 16	4820.0	4200.9	619.1	
February	4550.0	4121.9	428.1	
March	4528.6	4095.9	432.7	
Total	41200.0	35738.8	5461.2	

Note: Mention sale price of milk (range during the year): Rs. 30 to 32 per kg.

9.16 Feed and fodder purchased and offered to animals during the period 4/2015 to 3/2016

Month	Type of fodder/feed	Qty. produced at Farm	Qty. Purchased	Actually fed	Balance
April, 15	Green	220		220	
	Dry	102	*200	150	152
	Silage	48		49	
	Concentrate	-	*156	48	108
May	Green	60		60	
	Dry	35		135	50
	Silage	200		200	
	Concentrate	-		49	59
June	Green	60		60	
	Dry	67		117	
	Silage	150		150	
	Concentrate	-		48	11
July	Green	300		300	
	Dry	99		99	
	Silage	-		-	
	Concentrate	-		40	-29**
August	Green	450		450	
	Dry	44		44	
	Silage	-		-	
	Concentrate	-		42	-71**
September	Green	490		490	
	Dry	40		40	
	Silage	-		-	
	Concentrate	-		43	-114**

October	Green	450		450	
	Dry	76		76	
	Silage	-		-	
	Concentrate	-		42	-156**
November	Green	200		200	
	Dry	220		220	
	Silage	-		-	
	Concentrate	-	295	41	98
December	Green	310		310	
	Dry	173		173	
	Silage	-		-	
	Concentrate	-	205	48	255
January 16	Green	310		310	
	Dry	159		159	
	Silage	-		-	
	Concentrate	-		53	202
February	Green	900		900	
	Dry	117		117	
	Silage	-		-	
	Concentrate	-		53	149
March	Green	800		800	
	Dry	113		113	
	Silage	-		-	
	Concentrate	-		52	97
Total	Green	4550		4550	
	Dry	1245	200	1445	
	Silage	399		399	
	Concentrate	-	656	559	97

* Balance from previous year ** used form IGFRI stock and returned after purchase

9.17. Milking performance during the period 4/2015 to 3/2016

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 15	29	18	47	60.42	4.06	2.10
May	26	22	48	54.2	3.83	1.82
June	21	20	41	51.21	3.92	1.92
July	20	21	41	48.78	3.66	1.70
August	26	15	41	63.41	3.92	2.18
September	32	9	41	78.04	4.63	2.58
October	26	15	41	63.41	4.68	2.95
November	28	13	41	68.29	4.16	2.79
December	31	11	42	73.8	4.68	2.91
January, 16	32	10	42	76.19	5.30	3.70
February	32	11	43	74.41	5.70	3.65
March	28	15	43	65.11	5.38	3.39
Overall	27.58	15	42.58	64.77	4.49	2.64

9.17.1 Milking performance since inception

Year	No. Of Animal in Milk	No. Of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2002-03	19	23	42	46.03	3.30	1.35
2003-04	18	22	40	44.74	3.44	1.35
2004-05	23	16	38	59.44	3.75	1.97
2005-06	22	20	42	51.43	3.74	1.80
2006-07	27	20	47	57.67	3.56	1.86
2007-08	27	19	46	58.69	4.67	2.57
2008-09	29	18	47	62.9	4.35	2.49
2009-10	27	23	50	54.5	4.64	2.37
2010-11	27	21	48	56.90	3.95	2.02
2011-12	12.5	20.92	33.41	37.41	4.65	1.58
2012-13	14	19.75	34	41.17	4.57	1.75
2013-14	21	19	40	52.50	4.72	2.24
2014-15	28	16	44	63.6	4.22	2.50
2015-16	27.58	15	42.58	64.77	4.49	2.64

9.18 Bull wise daughters born during the period 4/2015 to 3/2016

Bull No.	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lactation
*	22	16	16
B1	7	7	7
B44	13	9	9
B45	4	4	4
B46	10	8	8
B76	4	3	3
B78	5	5	5
B79	7	4	4
B84	12	8	6
B87	7	4	4
B89	5	1	1
B138	16	6	6
B143	2	1	1
B147	2		
B170	7	5	2
B182	3		
B184	8	1	
B228	5		
B240	18		
B244	12		

9.19 Bull wise daughters completing 1st lactation during the period 4/2015 to 3/2016

Bull No.	Daughter No.	Date of birth	Date of calving	First lact. 305 day or less milk yield(kg)	Total yield/ L.L	Remarks
44	207	08/02/2007	28/02/2014	1107.00	1365.50/398	
44	230	30/10/2007	15/10/2014	823.90	823.90/202	
78	282	26/08/2009	10/08/2014	1113.30	1113.30/276	
170	322	13/12/2010	25/07/2014	916.00	924.00/313	
143	323	23/12/2010	04/08/2014	1186.60	1363.70/402	
84	256	13/09/2008	14/08/2014	1480.80	1626.70/392	
138	248	15/07/2008	06/11/2014	1420.70	1430.70/310	
84	273	21/07/2009	19/12/2014	999.80	999.80/284	
87	308	22/08/2010	15/11/2014	1400.00	1480.40/351	
170	321	03/12/2010	21/02/2015	730.70	765.70/318	
78	310	28/08/2010	11/04/2015	1341.70	1341.70/304	
84	320	02/12/2010	31/12/2014	1311.10	1576.80/406	
87	270	12/06/2009	07/11/2014	1072.40	1313.40/461	
138	314	04/10/2010	13/03/2015	1093.80	1201.80/335	

9.20 List of breeding /young bulls as on 31-03-2016

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best lact.305 or days less yield (kg)	Semen doses available	Remarks
1	B240	04.01.2008	164	79	1780	4763	
2	B244	04.04.2008	94	84	1840	2994	
3	B331	03.09.2011	88	182	2000	4172	
4	B333	12.10.2011	55	170	1866	1360	
5	B349	14.11.2012	224	184	815		
6	B354	02.02.2013	107	170	1932		
7	B358	25.04.2013	265	244	1504		
8	B366	25.09.2013	193	244	2235		
9	B376	23.11.2013	295	240	1641		
10	B378	15.01.2014	164	228	1780		
11	B393	18.09.2014	88	244	2000		
12	B401	24.11.2014	231	240	1087		
13	B410	13.03.2015	314	240	1093		
14	B412	12.04.2015	310	244			
15	B417	17.08.2015	282	244	1113		
16	B420	02.09.2015	284	240	-		
17	B422	08.09.2015	88	244	2000		
18	B426	03.11.2015	290	244	994		
19	B427	15.11.2015	251	240	1501		
20	B428	10.12.2015	293	244	1530		
21	B429	12.12.2015	114	244	1645		
22	B434	11.01.2016	344	244			
23	B438	31.03.2016	195	331	1596		

9.21 Target achieved during the year 2015-16

Sr. No.	Trait	Target	Achieved (2015-16)
1.	Av. Age at first service (months)	32	39.69
2.	Av. age at first calving	40	47
3.	Av. age for initiating training of bulls (months)	24	34
4.	Av. age at first collection	34	-
5.	Av. service period	140	212
6.	Calf mortality (0-3 months)	<8 %	16.13
7.	Wet average	5.0	4.49
8.	Herd average	3.0	2.64

Conservation in the breeding tract

- **Germ Plasm Dissemination**: 5000 frozen semen doses sold to lay inseminators for AI in Agra district and 12 males and 7 females were sold through auction.

a) Artificial Insemination in the breeding tract:

Artificial insemination in field (2014-15)

AI performed	3177
Buffalo sold before PD	38
Died	7
Buffalo pregnant	1490
Conception rate (%)	47.57
Abortion	37
Pregnant buffalo sold	315
Calvings recorded	906 (Male 506, Females 400)

Artificial insemination in field (2015-16) : 4024 Artificial Inseminations were performed in Etawah, Agra, Auraiya, Jalaun, Jhansi, Lalitpur and Banda districts. Details of AI done are given below:

b) Milk recording in field: Milk yield recording of Bhadawari buffaloes was started during the year by the inseminators. Animals were recorded once in a month, animals were milked after calf suckling. Average milk yield in different months was as follows:

Month	1	2	3	4	5	6	7	8	9	10
Milk yield (kg)	7.31	7.42	7.51	7.11	6.87	6.07	5.54	5.48	4.55	3.1
No. of observation	5	7	8	8	8	8	7	5	3	1

c) Milk composition of Bhadawari buffaloes in field: Milk samples from 10 lactating Bhadawari buffaloes were collected (in morning) from Chakaranagar area. Milk fat, SNF, protein and lactose were recorded as 8.47, 9.32, 4.05 and 5.1 percent, respectively.

d) Calving in Bhadawari herd maintained by a farmer at Orchha: A progressive farmer have established a herd of Bhadawari buffaloes at Orchha (near Jhansi), 13 calvings were recorded during this year. There are 35 Bhadawari animals in his herd.

e) Telecast of a Documentary on Bhadawari b uffaloes: A team from D D Kishan filmed a documentary on Improvement and Conservation of Bhadawari buffaloes and was aired on 17.02.2016 at 6:30 am on D D National, and repeat telecast on the same was held on the same day in D D Kishan at 8:30 pm.

f) Kishan Gosthi: 2

10. Research Achievements:

- Average lactation milk yield, 305 days or less milk yield and wet average were recorded as 1406.64 kg, 1321.8 kg and 4.49 kg, respectively.
- Average age at first service, age at first calving and average service period and conception rate were 39.6 months, 47 months, 212 days and 73 percent, respectively.
- Average milk fat, SNF, protein and lactose were recorded as 8.26, 9.57, 4.05 and 5.23 percent, respectively.
- 12 males and 7 females were sold through auction
- Cryopreservation of semen form selected bulls was done for it use in field and farm herd for artificial insemination, More than 19 thousand doses were frozen.
- 5000 semen doses were sold to lay inseminators for AI in the breeding tract.
- 906 calvings were recorded in the field from the AI done during the year 2014-15. Conception rate in the field was recorded as 47.57 percent.
- Artificial insemination in the Bhadawarti breeding tract was continued during the year 2015-15. A total of 4024 artificial inseminations were performed in Etawah, Agra, Jalaun, Jhansi, Auraiya and Banda districts.
- A documentary on conservation and improvement of Bhadawari buffaloes was prepared and aired on D D National and D D Kisahn channel.

11. <u>Publications:</u>

Research papers published in journals	**:**	**3**
Presentations in conference/symposia/seminars/other	**:**	**3**
Technical/popular article	**:**	**1**

12. **Expected Socio-economic impact in the tract**: Activities of the project is creating awareness among the farmers about the Bhadawari buffaloes and farmers are coming forward to purchase the Bhadawari animals for rearing purpose during auction.

13. **Constraints if any :** Nil

14. **Focus of work in the coming year**: Semen freezing will be continued. Artificial insemination in the breeding tract will be continued. Efforts will be made to disseminate Bhadawari germplasm through sale of frozen semen/ breeding bulls to various agencies for their use in the field. efforts will also be made to motivate farmers for rearing Bhadawari buffaloes.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Expenditure as per AUC		Closing balance
Total	ICAR Share		ICAR Share	State Share	
31.10	31.10	31.10	28.28769	0.00	2.81231

Herd Performance

The Herd strength was 104 head as against 102 in 2014-15, which consists of 59 breeding buffaloes (>2.0 years), 32 calving took place during the period out of which 12 were male and 15 were female and 2 still birth. 0-3 month calf mortality was reported as 16.13% (5/31). 52 AI were performed and 38 conceived with a very high conception rate of 73.00 percent. Semen of three bull were used for AI purpose at the farm. 19694 doses of semen were produced from four bulls and 9885 doses were used/ supplied for AI purpose in the field.

Average lactation yield, lactation length and 305 or less day milk yield were 1406.64 (n=25) kg, 330 (n=25) days and 1321.8 (n=25) kg, respectively during the report period. Age at first calving, average service period, average dry period and average calving interval was 47.25 month (n=5), 212.3 (n=24) days, 192.08 days (n=24) and 523 days (n=24) respectively. 63.6 % animals were in the milk with wet average 4.49 kg and herd average of 2.69 kg. 12 male calves and 5000 frozen semen doses were disseminated to farmers. A total of 4024 AIs were performed in Etawh, Agra, Jalaun, Jhansi, Auriya & Banda districts. 906 calving recorded in the field.

Targets achieved during 2015-16

S. No	Trait	Target	Achieved	
			2015-16	2014-15
1.	Av. Age at first service (months)	32 months	39.69	40.2
2.	Av. Age at first calving	44 months	47	54.0
3.	Av. Age for initiating training of bulls (months)	24 months	34	--
4.	Av. Age at first collection	34 months	NA	--
5.	Av. Service period	140 days	212	182
6.	Calf mortality (03 months)	≤ 5 %	16.13 %	14.7 %
7.	Wet average	≥ 5.0 kg	4.49 kg	4.22 kg
8.	Herd average	≥ 3.0 kg	2.64 kg	2.50 kg

Recommendations:

- The young bulls whose dam's 305 day or less day best lactation yield less than 1600 kg not to be use as breeding bull.
- Field AI program to be continued.
- Decline in production performance needs to be examined and corrected.
- Calving interval need to be reduced.

NETWORK PROJECT ON BUFFALO IMPROVEMENT (FIELD UNITS)

Participating Units : **1. CIRB, Hisar**
2. GADVASU, Ludhiana
3. NDRI, Karnal

Date of start : 2001

INTRODUCTION:

Murrah is most important breed among milch buffaloes which draws maximum demand of its germplasm in the country. But the problem of non-availability of genetically superior and progeny tested bulls is acute to meet ever increasing demand for improvement of the country buffaloes. It is, therefore, essential to develop superior germplasm and test them efficiently on large organized herds as well as the ones available with the farmers. Progeny testing under institutional and field conditions besides providing superior bulls for use in developmental programme, helps in developing elite breeding herds. Buffalo herds available with various research institutions and those managed by the state/central government developmental agencies are too small in size to independently implement a worthwhile progeny testing programme for even a moderately accurate evaluation of bulls. It is more desirable to evaluate the bulls on the basis of their progeny performance raised in different environments at various associated organized as well as at the farmers herds.

OBJECTIVES:

To strengthen the on going sire evaluation programme of associated herd progeny testing by including field performance recording of the daughters of test bulls.

FIELD UNIT: CIRB HISAR

Name of the Institute: Central Institute for Research on Buffaloes, Hisar
Title of the project: Progeny testing of bulls under field conditions (FPT)
Principal Investigator: Dr A Bharadwaj, Principal Scientist

Technical programme: The use of semen of test bulls under Network Project on Buffalo Improvement on buffaloes in ten adopted villages of CIRB Hisar is to be undertaken. This has to be followed by pregnancy diagnosis, calving records, tagging and follow up of progenies till the completion of first lactation for milk records on the basis of monthly test day recording. Data on different aspects to be recorded as per specified format.

Report of the Project (April 2015– March 2016): Under field progeny testing program (FPT) semen of test bulls is used for artificial insemination in the field, followed by pregnancy diagnosis, calving records and follow up of progenies till the completion of first lactation for milk records on the basis of monthly test day recording. During the period from April 2015 to March 2016, 4434 AI using 15 test bulls of 15th set and 9 test bulls of 16th set were performed

in ten adopted villages. The use of 15th set was ceased in December 2015 and 16th set was initiated from January 2016. The conception rate in the field was worked out to be 53%. In this period 2486 pregnancies were confirmed and 1718 calving (900 males, 818 females) were recorded. In addition 118 progenies, 7 of 11th, 73 of 12th, and 39 of 13th set were also calved and monthly test day milk yield were recorded / being recorded. The average age at first calving for these 119 daughters was 41.52 months. During the year 178 daughters were recorded, out of which 74 daughters completed the lactation, 33 daughters sold before the lactation was completed and recording of 71 daughters are in progress. As on 31st March 2016, a total of 1345 female progenies of 12th to 15th set are standing in the field for future recordings, out of which 577, 578 and 190 daughters were less than 1 year, 1 to 3 years and more than three years, respectively. The physical identification using injectable microchips/ ear tagging has been done in all female progenies born in the field till December 2015.

F 1. Herd Strength of Registered females under field unit during 2015-16

Name of Village	OB	*Addition*	*Deduction*		CB
		New Reg. (Birth/ Purchase)	Sold	Death	
	--				

F 2. Status of Breedable females under field unit during 2015-16

Name of Village	Heifers >2 ½ years		*Buffalo (NP)*		*Buffalo Pregnant*	
	Total	Pregnant	In milk	Dry	In milk	Dry
	--					

F 3. Month-wise AI at Different Field Unit Centres during 2015-16

Months	Centre/ Village										Total
	Bir	Juglan	Dhiktana	Kheri	Jewra	Kirara	Sarsod	Bichpari	Bado	Bugana	
April 15	25	52	17	39	30	9	21	28	28	19	268
May	23	35	16	27	22	7	20	38	22	16	226
June	27	38	14	30	34	6	31	34	25	13	252
July	32	38	28	36	55	10	37	52	33	23	344
Aug	33	38	31	38	62	11	38	36	32	20	339
Sept	48	65	45	48	62	12	43	54	38	35	450
Oct	53	62	54	55	74	11	50	62	42	39	502
Nov	56	61	58	55	66	11	76	64	45	41	533
Dec	66	51	53	48	58	12	45	44	43	41	461
Jan 16	58	48	42	53	62	12	48	27	48	32	430
Feb	53	36	39	42	46	10	34	24	38	37	359
March	42	31	26	35	33	11	30	16	27	19	270
Total	516	555	423	506	604	122	473	479	421	335	4434

F4. Bull-wise AI at Different Field Unit Centres during the Period 2015-16

Month	Bull No												
	2371 XV	**2412 XV**	**2417 XV**	**2429 XV**	**2459 XV**	**4324 XV**	**4328 XV**	**4354 XV**	**4363 XV**	**4403 XV**	**4438 XV**	**6007 XV**	**6139 XV**
April 15	-	21	-	57	37	-	44	-	-	48	27	-	-
May	-	14	25	-	41	-	4	-	21	74	47	-	-
June	-	1	-	7	23	-	-	7	82	6	34	-	-
July	-	82	-	36	20	21	26	28	-	-	35	-	28
Aug	32	21	54	-	21	17	-	1	1	17	2	38	24
Sept	-	21	27	27	10	-	75	28	22	-	31	35	-
Oct	-	-	111	6	10	12	73	127	2	4	-	-	26
Nov	2	49	34	64	15	58	-	14	62	15	70	30	29
Dec	7	1	-	12	15	-	165	24	9	71	-	13	45
Jan 16	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**41**	**210**	**251**	**209**	**192**	**108**	**387**	**229**	**199**	**235**	**246**	**116**	**152**

Cont..

Month	Bull No											
	6290 XV	**6405 XV**	**2467 XVI**	**2501 XVI**	**4592 XVI**	**4705 XVI**	**4889 XVI**	**6379 XVI**	**6409 XVI**	**6646 XVI**	**M29 XVI**	
April 15	33	1	-	-	-	-	-	-	-	-	-	**268**
May	-	-	-	-	-	-	-	-	-	-	-	**226**
June	60	32	-	-	-	-	-	-	-	-	-	**252**
July	28	40	-	-	-	-	-	-	-	-	-	**344**
Aug	-	111	-	-	-	-	-	-	-	-	-	**339**
Sept	140	34	-	-	-	-	-	-	-	-	-	**450**
Oct	86	45	-	-	-	-	-	-	-	-	-	**502**
Nov	-	91	-	-	-	-	-	-	-	-	-	**533**
Dec	-	99	-	-	-	-	-	-	-	-	-	**461**
Jan 16	-	-	45	85	50	138	112	-	-	-	-	**430**
Feb	-	-	37	99	35	89	33	42	-	24	-	**359**
March	-	-	3	1	5	26	3	42	49	22	119	**270**
Total	**347**	**453**	**85**	**185**	**90**	**253**	**148**	**84**	**49**	**46**	**119**	**4434**

F 5. Month-wise Conception at Different Field Unit Centres during 2015-16

Months	**Centre/ Village**										**Total**
	Bir	**Juglan**	**Dhiktana**	**Kheri**	**Jewra**	**Kirara**	**Sarsod**	**Bichpari**	**Baado**	**Bugana**	
April 15	23	48	23	15	27	11	30	26	17	14	**234**
May	23	54	18	13	41	11	40	26	17	14	**257**
June	13	37	17	11	19	8	20	20	10	10	**165**
July	16	34	9	21	12	5	13	15	13	9	**147**
Aug	13	21	8	15	11	4	11	21	11	7	**122**
Sept	14	20	6	16	16	3	15	18	13	7	**128**
Oct	18	22	15	19	31	7	20	27	18	12	**189**
Nov	19	22	15	19	37	6	24	19	17	11	**189**
Dec	30	37	24	23	27	8	25	29	19	18	**240**
Jan 16	28	32	27	29	40	5	30	31	20	18	**260**
Feb	38	38	27	29	37	7	48	40	21	21	**306**
March	39	29	25	24	34	8	27	28	20	15	**249**
Total	**274**	**394**	**214**	**234**	**332**	**83**	**303**	**300**	**196**	**156**	**2486**

F 6. Month-wise Calving at Different Field Unit Centres during 2015-16

Month	Centre/Village																				Total	
	Bir		**Juglan**		**Dhiktna**		**Kheri**		**Jewra**		**Kirara**		**Sarsod**		**Bichpari**		**Bado**		**Bugana**			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April 15	2	5	9	7	4	3	2	2	4	8	1	1	4	5	3	3	3	3	1	1	**33**	**38**
May	6	5	13	9	3	3	3	2	5	8	3	3	6	4	6	3	3	2	0	1	**48**	**40**
June	8	8	15	13	4	7	2	1	7	10	2	3	5	2	6	3	4	2	0	1	**53**	**50**
July	10	10	14	19	4	6	3	3	14	9	2	3	9	11	5	7	4	4	1	1	**66**	**73**
Aug	21	13	28	22	11	12	7	2	9	13	2	2	11	9	13	11	14	6	1	2	**117**	**92**
Sept	14	11	29	26	10	10	7	5	15	16	3	5	8	4	15	13	13	6	3	3	**117**	**99**
Oct	6	11	25	17	10	8	7	5	7	18	3	4	9	11	15	13	10	7	4	6	**96**	**100**
Nov	10	9	19	17	10	9	8	6	7	13	2	5	10	9	10	7	7	6	5	5	**88**	**86**
Dec	9	12	28	16	8	7	5	3	10	15	3	5	19	7	12	5	7	6	6	4	**107**	**80**
Jan 16	6	6	16	14	6	7	6	3	6	9	2	4	8	5	7	8	5	3	3	4	**65**	**63**
Feb	6	8	16	11	3	3	8	7	5	4	3	2	5	4	6	4	5	5	3	4	**60**	**52**
March	5	7	9	8	3	2	7	6	3	5	1	2	5	3	9	6	6	4	2	2	**50**	**45**
Total	**103**	**105**	**221**	**179**	**76**	**77**	**65**	**45**	**92**	**128**	**27**	**39**	**99**	**74**	**107**	**83**	**81**	**54**	**29**	**34**	**900**	**818**

F 7. Bull-wise Conception at Different Field Unit Centres during the Period 2015-16

Months	Bull No.															**Total**
	2371 XV	**2412 XV**	**2417 XV**	**2429 XV**	**2459 XV**	**4324 XV**	**4328 XV**	**4354 XV**	**4363 XV**	**4403 XV**	**4438 XV**	**6007 XV**	**6139 XV**	**6290 XV**	**6405 XV**	
April 15	52	-	33	-	-	50	-	1	-	-	-	69	29	-	-	**234**
May	14	-	28	-	59	6	-	1	11	36	-	6	28	66	2	**257**
June	-	-	1	30	21	-	-	-	-	27	44	-	-	10	32	**165**
July	-	7	-	31	25	-	23	-	-	25	19	-	-	16	1	**147**
Aug	-	7	13	-	25	-	0	-	11	39	27	-	-	-	-	**122**
Sept	-	-	-	4	11	-	-	3	43	3	15	-	-	28	21	**128**
Oct	-	41	-	16	11	13	12	18	-	-	20	-	14	20	24	**189**
Nov	17	12	27	-	11	10	-	1	1	10	1	19	14	-	66	**189**
Dec	-	10	14	11	4	-	37	13	13	-	17	18	-	82	21	**240**
Jan 16	-	-	54	4	7	5	36	65	0	3	-	-	14	44	28	**260**
Feb	2	26	17	39	10	30	-	7	38	11	41	15	21	-	49	**306**
March	6	1	-	5	11	-	95	14	5	35	-	7	28	-	42	**249**
Total	**91**	**104**	**187**	**140**	**195**	**114**	**203**	**123**	**122**	**189**	**184**	**134**	**148**	**266**	**286**	**2486**

F 8. Bull-wise Calving at Different Field Unit Centres during the Period 4/ 2015 to 3/2016

Months	Bull No.																			
	2357 XIV		4093 XIV		4196 XIV		4439 XIV		2371 XV		2412 XV		2417 XV		2429 XV		2459 XV		4324 XV	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April 15	16	17	3	3	10	12	4	6	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	3	0	3	3	3	4	12	11	15	8	3	4	-	-	-	-	4	2
June	-	-	-	-	-	-	-	-	5	4	8	8	1	1	12	4	-	-	-	-
July	1	0	-	-	-	-	-	-	9	10	-	-	-	-	12	14	-	-	5	7
Aug	-	-	-	-	-	-	-	-	-	-	7	5	22	17	7	3	7	7	36	25
Sept	-	-	-	-	-	-	-	-	2	1	14	16	12	5	0	1	-	-	17	13
Oct	-	-	-	-	-	-	-	-	19	20	12	12	-	-	-	-	-	-	0	3
Nov	-	-	-	-	-	-	-	-	19	21	-	-	14	11	-	-	-	-	22	19
Dec	-	-	-	-	-	-	-	-	6	4	-	-	13	4	-	-	26	15	3	3
Jan 16	-	-	-	-	-	-	-	-	-	-	-	-	1	0	12	12	9	6	-	-
Feb	-	-	-	-	-	-	-	-	-	-	2	3	-	-	15	6	7	12	-	-
March	-	-	-	-	-	-	-	-	-	-	2	4	5	7	-	-	12	7	-	-
Total	17	17	6	3	13	15	7	10	72	71	60	56	71	49	58	40	61	47	87	72

Cont..

Bull No.																		Total	
4328 XV		4354 XV		4363 XV		4403 XV		4438 XV		6007 XV		6139 XV		6290 XV		6405 XV			
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	38
-	-	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	40
-	-	2	6	-	-	-	-	-	-	18	15	7	12	-	-	-	-	53	50
-	-	15	14	-	-	-	-	-	-	0	1	24	27	-	-	-	-	66	73
7	4	-	-	14	12	-	-	10	12	-	-	5	6	-	-	2	1	117	92
13	9	17	19	1	1	-	-	0	1	34	27	-	-	-	-	7	6	117	99
6	4	11	14	23	23	-	-	-	-	24	21	-	-	1	3	-	-	96	100
-	-	0	1	-	-	-	-	-	-	25	22	8	12	-	-	-	-	88	86
-	-	0	1	5	6	13	11	-	-	3	2	12	12	26	21	0	1	107	80
-	-	-	-	-	-	11	11	21	14	-	-	-	-	2	6	9	14	65	63
10	7	-	-	-	-	12	11	6	7	-	-	-	-	8	5	0	1	60	52
-	-	-	-	4	6	16	11	11	10	-	-	-	-	-	-	-	-	50	45
36	24	50	63	47	48	52	44	48	44	104	88	56	69	37	35	18	23	900	818

F 9. Bull-wise Live Female Progeny at Different Field Unit Centers (0-6month) as on 3/2016

Bull No. Centres	2371 XV	2412 XV	2417 XV	2429 XV	2459 XV	4324 XV	4328 XV	4354 XV	4363 XV	4403 XV	4438 XV	6007 XV	6139 XV	6290 XV	6405 XV	Total
Bir	4	0	2	1	8	1	0	0	2	3	3	4	0	2	1	31
Juglan	11	0	1	0	12	4	1	0	15	7	9	5	0	5	0	70
Dhiktana	3	0	2	2	2	1	0	5	2	3	4	0	3	0	2	29
Kheri	1	1	1	1	1	1	2	1	1	5	2	4	1	5	1	28
Jewra	3	9	0	0	0	4	3	7	3	8	0	12	4	10	3	66
Kirara	2	2	0	0	0	0	0	3	0	3	0	0	1	2	2	15
Sarsod	1	2	1	1	4	0	0	0	2	0	2	2	4	2	1	22
Bichpari	3	3	4	4	2	0	1	0	0	1	3	4	1	1	1	28
Bado Patti	1	1	1	0	0	6	3	0	1	5	0	4	1	0	3	26
Bugana	3	0	1	1	1	0	0	1	0	4	3	0	3	0	1	18
Total	32	18	13	10	30	17	10	17	26	39	26	35	18	27	15	333

F 10. Bull-wise Live Female Progeny at Different Field Unit Centers (6-12month) as on 3/2016

Bull No. Centres	2357 XIV	4093 XIV	4196 XIV	4439 XIV	2371 XV	2412 XV	2417 XV	2429 XV	2459 XV	4324 XV	4328 XV	4354 XV	4363 XV	4438 XV	6007 XV	6139 XV	6405 XV	Total
Bir	2	0	0	2	1	1	1	0	0	8	1	4	0	0	4	2	0	26
Juglan	2	0	1	1	7	2	17	2	0	13	0	3	0	5	19	2	0	74
Dhiktana	0	0	5	0	1	4	1	1	2	0	0	3	0	0	0	9	0	26
Kheri	1	0	1	0	1	1	0	1	0	3	1	0	0	0	1	1	1	12
Jewra	2	0	2	2	2	3	0	0	0	6	0	6	0	4	1	3	1	32
Kirara	0	0	0	0	2	2	0	0	0	1	1	0	0	0	0	3	1	10
Sarsod	2	1	0	0	1	2	0	5	0	0	0	2	2	0	0	2	0	17
Bichpari	1	0	0	0	0	2	0	1	0	3	1	4	6	0	2	2	0	22
Bado Patti	0	0	3	0	2	2	0	4	0	2	4	0	0	0	1	1	0	19
Bugana	1	0	0	1	0	0	0	0	0	0	0	3	0	0	0	1	0	6
Total	11	1	12	6	17	19	19	14	2	36	8	25	8	9	28	26	3	244

F 11. Bull-wise Live Female Progeny at Different Field Unit Centers (1-3 years) as on 3/2016

Bull No. Centres	R11 XII	838 XIII	851 XIII	858 XIII	2234 XIII	2269 XIII	2304 XIII	3964 XIII	4059 XIII	5943 XIII	2357 XIV	2369 XIV	4093 XIV	4100 XIV	4196 XIV	4439 XIV	6014 XIV	6044 XIV	6066 XIV	6136 XIV	Total
Bir	0	4	1	5	0	1	3	4	0	7	9	3	4	5	5	4	4	8	0	5	72
Juglan	0	6	10	10	0	2	11	6	0	7	18	13	14	6	10	4	11	15	0	6	149
Dhiktana	0	6	10	4	3	3	4	0	3	0	1	2	5	11	5	2	4	7	0	8	78
Kheri	0	4	3	3	7	0	4	0	6	4	3	2	1	3	2	4	0	0	0	4	50
Jewra	0	11	5	3	4	2	3	0	0	0	0	7	7	3	2	2	3	6	0	6	64
Kirara	0	2	3	1	3	2	0	0	0	0	0	2	2	1	2	1	0	0	0	1	20
Sarsod	1	4	2	4	0	1	1	0	1	3	1	1	2	5	0	3	3	4	1	2	39
Bichpari	0	4	4	3	3	2	2	0	3	2	0	2	1	1	0	1	3	4	0	6	41
Bado Patti	0	9	2	1	1	0	6	1	2	3	2	5	2	0	4	1	1	0	0	2	42
Bugana	0	5	3	2	0	0	3	0	0	1	1	2	2	1	0	1	1	0	0	1	23
Total	1	55	43	36	21	13	37	11	15	27	35	39	40	36	30	23	30	44	1	41	578

F 12. Bull-wise Live Female Progeny at Different Field Unit Centers (> 3 years) as on 3/2016

Bull No. Centres	183 XII	220 XII	2176 XII	2177 XII	2185 XII	3598 XII	5604 XII	5710 XII	5720 XII	R11 XII	KHR XII	851 XIII	858 XIII	2234 XIII	2269 XIII	2304 XIII	3964 XIII	4059 XIII	5943 XIII	Total
Bir	0	3	1	5	0	1	0	1	0	0	0	0	0	1	5	1	6	1	2	27
Juglan	1	0	0	2	0	1	1	0	1	0	0	1	0	2	3	2	9	2	0	25
Dhiktana	2	0	0	0	0	0	0	0	0	1	1	0	1	2	0	8	4	6	8	33
Kheri	0	0	0	0	0	1	0	0	0	2	2	0	0	1	0	2	4	2	3	17
Jewra	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	6	2	0	11
Kirara	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4	1	1	0	8
Sarsod	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	4	1	3	12
Bichpari	0	0	0	1	0	0	0	0	0	1	0	0	0	1	3	3	1	1	2	13
Bado Patti	0	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3	0	2	1	11
Bugana	2	0	0	0	0	0	0	0	0	0	0	3	0	2	4	5	3	7	7	33
Total	6	3	4	8	1	3	2	1	1	6	3	4	1	11	17	30	38	25	26	190

F 13. Bull-wise Daughters Calved at Different Field Units during 2014-2016

Bull No. Centres	12 XI	2148 X1	2154 XI	3267 XI	183 XII	220 XII	2176 X11	2177 XII	2185 XII	3598 XII	5604 XII	5710 XII	5720 XII	R10 XII	R11 XII	KHR XII
Bir	0	0	0	0	0	1	1	1	2	0	0	1	0	1	0	0
Juglan	0	0	0	0	2	0	1	0	0	1	0	1	0	0	2	1
Dhiktana	0	0	0	0	2	1	5	2	0	2	2	0	2	0	1	4
Kheri	1	0	0	1	2	0	0	0	1	2	0	0	0	0	2	0
Jewra	0	1	1	1	1	0	0	1	0	0	1	0	1	0	2	0
Kirara	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
Sarsod	0	0	0	1	2	0	1	0	2	0	0	2	1	0	0	0
Bichpari	1	0	0	0	0	1	2	0	0	1	1	0	1	2	0	0
Bado Patti	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0
Bugana	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Total	2	1	1	3	13	3	10	4	5	8	4	4	5	4	8	5

Cont..

Bull No. Centres	838 XIII	858 XIII	2269 XIII	2304 XIII	3964 XIII	4059 XIII	5943 XIII	Total
Bir	0	0	1	0	0	1	1	10
Juglan	0	0	4	0	3	0	2	17
Dhiktana	0	0	0	0	1	0	0	22
Kheri	1	0	0	1	0	0	1	12
Jewra	0	0	0	1	1	0	0	11
Kirara	0	0	0	0	0	1	0	3
Sarsod	0	0	2	0	4	1	3	19
Bichpari	0	1	0	0	3	3	0	16
Bado Patti	0	0	1	0	0	0	0	5
Bugana	0	0	0	1	0	0	1	4
Total	1	1	8	3	12	6	8	119

F 14. Bull-wise Daughters Recorded at Different Field Units Centres during the Period 4/ 2015 to 3/2016

Name of village	Bull No.	Dgtr No.	Date of Birth	Date of Calving	Monthly Milk Records																			
					I		II		III		IV		V		VI		VII		VIII		IX		X	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
Bir																								
	2185 XII	180	10/07/11	05/08/14	4.5	4.4	4.4	4.3	4.3	4.2	4.8	4.7	3.8	3.6	4.0	3.9	4.3	4.2	4.3	4.2	3.3	3.2	5.0	0.0
	3267 XI	161	29/10/10	02/09/14	3.6	3.5	3.7	3.6	4.3	4.2	4.5	4.4	4.9	4.8	5.2	5.0	4.6	4.5	4.3	4.1	3.8	3.7	4.0	0.0
	ND8 XI	163	31/10/10	29/09/14	3.3	3.2	4.7	4.6	5.2	5.1	5.3	5.2	4.5	4.4	3.5	3.4	3.6	3.5	3.5	3.3	3.1	3.0	2.5	2.4
	3591 XI	159	25/10/10	21/10/14	2.8	2.7	4.2	4.1	4.3	4.2	4.3	4.1	3.8	3.6	3.4	3.3	3.4	3.3	3.1	3.0	3.0	2.8	4.0	0.0
	ND8 XI	162	29/10/10	10/12/14	3.8	3.6	4.0	3.8	4.2	4.0	4.2	4.0	3.5	3.4	3.3	3.2	3.3	3.2	3.5	3.4	3.2	3.1	3.3	3.2
	2185 XII	194	12/11/11	27/06/15	4.2	4.1	5.8	5.7	5.3	5.1	5.6	5.5	5.5	5.4	4.2	4.0	4.4	4.3	4.3	4.2	4.2	4.1		
	220 XII	200	27/11/11	01/08/15	3.5	3.3	4.9	4.7	4.3	4.2	4.5	4.4	3.8	3.6	3.6	3.5	3.4	3.3	3.2	3.1				
	2185 XII	193	08/11/11	18/09/15	4.5	4.4	5.2	5.0	5.5	5.3	5.3	5.1	4.8	4.7	5.2	5.1	5.3	5.1						
	5710 XII	181	05/08/11	19/09/15	4.7	4.6	5.0	4.8	5.5	5.2	4.8	4.7	4.7	4.5	5.3	5.1	4.2	4.1						
	R10 XII	187	15/10/11	02/10/15	4.0	3.8	4.4	4.2	4.6	4.5	4.8	4.5	5.1	4.8	4.1	4								
	5943 XIII	230	23/07/12	15/10/15	3.3	3.2	3.5	3.4	3.8	3.7	3.8	3.5	4.	3.8	3.6	3.5								
	2176 XII	223	12/07/12	17/10/15	4.3	4.1	4.5	4.3	5.3	5.2	4.6	4.5	5.3	5.1	Sold	x	x	x	x	x	x	x	x	x
	2177 XII	204	16/01/12	03/11/15	3.8	3.5	4.3	4.1	3.6	3.5	4.0	3.7	4.3	4.2										
	4059 XIII	227	28/07/12	14/11/15	2.0	1.7	2.0	1.5	Dry	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2269 XIII	251	12/10/12	20/11/15	3.5	3.4	5.3	5.2	5.8	5.6	5.8	5.6												
Juglan																								
	3591 XI	449	19/09/10	05/07/14	4.3	4.2	4.3	4.2	4.5	4.4	3.9	3.8	3.8	3.7	4.2	4.1	3.7	3.6	3.4	3.2	3.0	3.0	2.8	2.7
	3598 XII	508	20/06/11	05/07/14	4.4	4.3	4.2	4.1	4.3	4.2	4.0	3.9	4.0	3.8	4.6	4.5	4.2	4.0	4.0	3.8	3.8	3.7	3.5	3.4
	R10 XII	516	25/07/11	19/07/14	3.3	3.2	3.7	3.6	4.2	4.1	4.3	4.2	4.2	4.1	4.6	4.6	4.3	4.1	4.2	4.0	4.0	3.9	3.8	3.7

	3591 XI	446	14/09/10	24/07/14	4.3	4.2	3.8	3.7	4.2	4.1	3.8	3.7	4.0	3.8	4.0	3.5	3.8	3.6	3.5	3.4	3.3	3.2	3.3	3.1
	2177 XII	510	27/06/11	01/08/14	3.2	3.1	3.3	3.1	3.2	3.1	3.8	3.6	4.2	4.1	4.0	3.9	3.6	3.4	3.8	3.7	3.4	3.3	3.5	3.3
	3598 XII	520	08/09/11	15/09/14	2.8	2.7	3.3	3.2	3.4	3.3	4.6	4.5	4.8	4.7	4.5	4.4	4.3	4.2	Sold	x	x	x	x	x
	183 XII	543	12/11/11	22/09/14	3.2	3.1	3.6	3.5	4.8	4.7	5.0	4.8	5.2	5.0	5.1	5.0	4.8	4.7	4.0	3.8	4.0	3.8	4.0	0.0
	ND8 XI	462	22/10/10	25/10/14	4.5	4.4	6.3	6.2	6.4	6.3	6.2	6.0	6.1	6.0	5.8	5.7	5.3	5.2	3.8	3.7	3.3	3.1	4.5	0.0
	2185 XII	519	28/08/11	22/10/14	3.5	3.4	4.5	4.3	4.8	4.7	5.2	4.9	5.5	5.4	5.7	5.6	5.6	5.4	4.3	4.2	3.7	3.6	3.0	2.8
	5604 XII	547	14/11/11	03/11/14	3.7	3.6	3.8	3.7	4.0	3.8	4.4	4.2	4.8	4.6	5.0	4.8	4.5	4.3	4.2	4.1	4.0	3.8	3.3	3.2
	R11 XII	545	19/11/11	21/06/15	3.8	3.6	4.0	3.8	4.5	4.4	4.4	4.2	4.4	4.2	4.2	4.1	3.4	3.3	3.3	3.2	5.0	0.0		
	KHR XII	539	22/10/11	02/08/15	4.6	4.5	4.8	4.7	6.0	6.0	6.9	6.7	4.5	4.7	4.3	4.1	3.8	3.7	3.6	3.4	Sold	x	x	x
	2269 XIII	603	05/09/12	28/08/15	3.3	3.2	4.8	4.6	4.9	4.7	4.2	4.0	3.6	3.5	3.1	3.0	4.0	0.0	Dry	x	x	x	x	x
	183 XII	582	20/06/12	13/09/15	3.5	3.2	3.5	3.4	3.7	3.4	3.8	3.7	5.3	5.2	4.8	4.6	4.5	4.3						
	2176 XII	587	12/07/12	18/09/15	3.5	3.4	4.0	3.8	4.5	4.3	5.0	4.8	5.8	5.7	5.5	5.3	5.6	5.4						
	3964 XIII	647	05/01/13	25/09/15	4.0	3.8	4.5	4.2	4.8	4.7	4.8	4.7	4.2	4.0	4.5	4.3								
	2269 XIII	616	08/10/12	02/10/15	4.5	4.3	3.8	3.9	3.3	3.8	4.2	4.0	4.3	4.2	4.6	4.4								
	5943 XIII	632	24/11/12	05/10/15	4.3	4.2	4.6	4.2	5.0	4.8	4.8	4.6	4.6	4.5	5.4	5.2								
	183 XII	579	14/06/12	25/10/15	3.8	3.6	4.0	3.7	4.3	4.1	4.5	4.3	4.2	4.0										
	2269 XIII	608	16/09/12	01/11/15	3.7	3.5	4.3	4.2	4.2	4.1	4.3	4.2	4.3	4.2										
	3964 XIII	627	06/11/12	28/11/15	4.0	3.8	4.6	4.5	4.3	4.1	4.3	4.2												
	3598 XII	585	30/06/12	01/12/15	3.5	3.3	4.8	4.7	5.2	5.0	4.7	4.5												
	3964 XIII	628	08/11/12	05/12/15	4.5	4.3	4.7	4.4	5.2	5.1	4.8	4.5												
	R11 XII	577	25/05/12	04/01/16	5.5	5.4	5.3	5.6	6.0	5.8														

	5943 XIII	634	29/11/12	02/01/16	4.5	4.3	4.7	4.5	4.8	4.5														
	2269 XIII	619	14/10/12	25/01/16	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	5710 XII	576	14/05/12	18/03/16	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Dhiktana																								
	220 XII	367	05/08/11	18/09/14	4.9	4.8	4.6	4.4	4.1	4.0	4.0	3.8	4.0	3.7	3.6	3.4	3.2	3.1	Dry	x	x	x	x	x
	220 XII	374	18/08/11	22/09/14	4.7	4.5	3.9	3.8	3.6	3.4	3.6	3.4	3.4	3.3	2.8	2.5	2.1	2.0	Dry	x	x	x	x	x
	2185 XII	384	15/09/11	02/10/14	5.1	4.9	4.1	3.9	3.9	3.7	3.8	3.6	3.5	3.4	3.2	3.1	3.1	2.9	1.6	1.4	Dry	x	x	x
	2154 XI	319	15/10/10	24/10/14	3.7	3.5	3.9	3.8	3.8	3.7	3.6	3.4	3.4	3.2	3.2	3.0	2.5	2.4	1.6	1.4	Dry	x	x	x
	220 XII	403	16/11/11	29/10/14	3.5	3.5	3.5	3.4	3.5	3.4	3.5	3.5	3.2	3.0	3.0	2.8	2.4	2.4	1.9	1.6	Dry	x	x	x
	R11 XII	361	03/07/11	25/10/14	5.0	5.4	5.1	5.0	4.4	4.2	4.1	3.9	3.2	3.0	3.1	2.9	Dry	x	x	x	x	x	x	x
	3255 XI	336	18/12/10	03/12/14	4.4	4.1	4.7	4.5	4.5	4.4	4.2	4.0	3.6	3.5	2.5	2.4	1.6	1.4	1.5	1.5	Dry	x	x	x
	2176 XII	358	28/05/11	25/12/14	4.9	4.6	4.5	4.2	4.1	3.9	3.8	3.8	3.4	3.2	3.2	3.1	1.3	1.2	2.5	0.0	Dry	x	x	x
	R11 XII	363	30/06/11	14/01/15	5.2	4.9	4.8	4.5	4.5	4.0	3.5	3.2	3.6	3.2	3.4	3.2	2.9	2.7	2.4	2.6	Dry	x	x	x
	3598 XII	390	03/10/11	16/05/15	4.5	4.3	4.4	4.2	3.2	3.1	3.1	2.8	1.6	1.4	2.5	2.3	1.6	1.4	1.5	1.4	1.5	0.0	Dry	x
	2177 XII	360	15/06/11	19/05/15	4.6	4.4	4.5	4.4	4.5	4.3	4.3	4.2	3.6	3.4	2.3	2.1	1.7	1.5	1.5	1.4	1.2	1.1	Dry	x
	183 XII	391	09/10/11	17/06/15	4.5	4.4	4.4	4.3	4.2	4.1	3.6	3.5	3.2	3.1	2.6	2.4	2.4	2.2	1.5	1.3	Dry	x	x	x
	KHR XII	393	18/10/11	04/07/15	4.6	4.5	4.5	4.4	4.1	3.9	3.6	3.4	2.6	2.4	2.2	2.1	2.1	2.0	1.9	1.7	3.1	3.2		
	2177 XII	396	28/10/11	25/07/15	4.8	4.6	5.1	4.9	3.6	3.5	2.1	1.9	1.5	1.4	1.5	0.0	2.5	2.4	Sold	x	x	x	x	x
	KHR XII	400	28/10/11	09/08/15	4.9	4.8	4.9	4.8	3.9	3.7	3.5	3.4	3.3	3.1	2.2	2.1	3.4	3.2	3.4	3.2				
	5604 XII	414	09/12/11	10/09/15	4.8	4.6	4.3	4.2	4.1	4.0	3.9	3.7	3.5	3.2	3.4	3.3	Sold	x	x	x	x	x	x	x
	5720 XII	412	08/12/11	12/09/15	5.1	5.0	4.6	4.4	4.5	4.4	4.4	4.3	4.2	4.1	4.3	4.1	Sold	x	x	x	x	x	x	x
	KHR XII	399	20/10/11	14/09/15	4.9	4.8	4.5	4.4	4.4	4.3	4.2	4.1	3.9	3.6	3.7	3.5	Dry	x	x	x	x	x	x	x

	2176 XII	381	15/09/11	21/09/15	4.6	4.4	4.5	4.3	4.3	4.1	4.1	4.0	3.5	3.4	Sold	x	x	x	x	x	x	x	x	x
	2176 XII	451	29/06/12	25/09/15	4.7	4.5	4.5	4.4	4.4	4.2	4.2	4.1	3.3	3.2	2.5	2.4								
	R11 XII	423	12/02/12	18/10/15	4.7	4.3	4.6	4.4	4.3	4.2	4.3	4.1	3.4	3.3	0.0	4.0								
	2176 XII	439	10/06/12	18/10/15	4.9	4.7	4.7	4.6	4.5	4.4	4.1	4.0	3.7	3.6	Sold	x	x	x	x	x	x	x	x	x
	220 XII	406	19/11/11	20/10/15	4.8	4.6	4.5	4.4	4.4	4.2	4.2	4.1	3.9	3.8	3.6	3.5								
	3598 XII	388	25/09/11	20/10/15	4.9	4.7	4.7	4.4	4.5	4.3	4.3	4.1	3.9	3.7	3.7	3.4								
	KHR XII	401	30/10/11	29/10/15	4.8	4.6	4.5	4.4	4.1	4.0	4.1	3.9	Sold	x	x	x	x	x	x	x	x	x	x	x
	183 XII	453	15/07/12	20/11/15	4.8	4.7	4.5	4.3	4.2	4.1	Died	x	x	x	x	x	x	x	x	x	x	x	x	x
	2176 XII	440	25/05/12	28/11/15	4.7	4.5	4.5	4.4	4.2	4.1	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x
	5720 XII	417	30/12/11	10/12/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	5604 XII	437	12/05/12	19/12/15	4.6	4.3	4.4	4.3	4.9	4.7														
	2176 XII	443	08/06/12	18/01/16	4.5	4.3	4.5	4.4	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	3964 XIII	467	06/09/12	19/03/16	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Kheri																								
	R10 XII	374	28/04/11	12/07/14	5.0	4.0	4.5	5.5	5.0	4.5	4.5	5.0	4.0	4.2	4.5	4.0	3.5	3.0	2.5	2.7	3.2	2.0	2.3	2.1
	3267 XI	356	08/12/10	17/07/14	4.0	4.0	5.0	5.5	5.0	4.5	5.5	5.0	4.5	4.5	4.5	4.0	4.0	4.0	1.5	1.0	2.2	1.0	2.0	0.0
	220 XII	385	10/07/11	13/07/14	3.0	3.5	4.5	4.5	5.0	5.5	5.5	5.0	5.0	4.5	4.5	5.0	4.0	3.5	3.5	3.0	4.0	3.5	3.3	2.8
	3255 XI	312	08/07/10	03/08/14	4.0	4.5	4.5	4.5	4.0	4.5	4.0	3.5	4.0	3.8	4.0	4.0	3.5	2.7	2.5	3.0	2.7	2.3	2.3	2.1
	5516 XI	322	31/07/10	15/11/14	4.0	3.9	4.7	4.1	5.3	5.0	5.6	5.4	5.9	5.2	2.2	2.0	2.1	1.8	1.8	1.6	1.5	0.0	Dry	x
	3267 XI	359	20/12/10	27/11/14	4.5	4.5	5.0	4.6	5.3	5.1	5.3	4.7	4.3	3.5	4.4	3.7	3.1	2.7	3.2	2.7	2.9	2.5	2.5	2.0
	12 XI	335	10/09/10	08/04/15	4.5	4.1	4.7	4.4	5.2	4.8	5.3	4.6	5.5	4.8	5.1	4.8	4.7	4.2	4.5	4.1	3.6	3.1	3.4	3.2
	183 XII	409	25/07/12	02/07/15	5.1	4.6	5.3	5.1	5.1	5.0	5.1	4.7	4.6	4.1	4.3	4.0	4.1	4.0	3.7	3.2	4.1	3.7		

	2185 XII	396	10/12/11	18/07/15	5.2	4.6	5.1	4.8	5.3	5.1	5.1	4.6	5.3	4.9	5.1	4.4	4.8	4.3	4.5	4.1	4.4	4.1		
	3598 XII	380	30/05/11	27/07/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	183 XII	407	11/06/12	12/09/15	5.5	5.0	5.3	5.1	4.7	4.2	4.3	4.1	4.2	4.0	3.7	3.3	4.2	4.0						
	3267 XI	354	28/11/10	15/09/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2304 XIII	410	20/07/12	01/10/15	5.4	5.1	5.7	5.2	5.6	5.1	5.1	4.8	5.3	4.7	4.7	4.2								
	R11 XII	399	05/02/12	10/10/15	5.2	4.8	5.3	4.7	5.7	5.0	5.2	4.8	4.7	4.2	4.3	3.5								
	3598 XII	400	22/03/12	25/10/15	5.2	4.6	5.5	5.1	4.7	4.0	4.6	4.0	4.2	3.3										
	R11 XII	395	31/10/11	15/12/15	4.9	4.5	4.7	4.2	4.5	4.0	3.7	3.1												
	5943 XIII	435	21/12/12	28/12/15	4.3	4.0	4.6	4.2	5.2	5.0														
	838 XIII	467	05/09/13	18/01/16	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Jewra																								
	Golu XI	529	15/12/10	15/07/14	3.6	3.4	4.8	4.5	3.7	3.5	3.6	3.4	3.2	3.1	3.0	2.8	3.1	2.4	2.3	2.1	1.5	0.0	Dry	x
	3591 XI	325	26/10/09	20/07/14	3.7	3.6	5.0	4.5	5.0	4.6	4.1	4.3	3.7	3.4	3.4	3.0	3.2	3.1	3.1	3.0	3.1	2.5	1.6	1.5
	3267 XI	525	13/11/10	22/07/14	4.3	3.6	4.4	3.7	4.0	3.1	3.4	3.0	3.1	3.0	3.1	2.8	2.8	2.5	2.6	2.3	2.1	2.0	2.1	0.0
	R10 XII	548	27/06/11	10/08/14	2.5	2.4	2.4	2.4	2.5	2.4	2.5	2.1	2.5	2.2	2.1	1.8	2.0	1.5	2.1	1.3	1.0	1.0	Dry	x
	12 XI	434	05/07/10	22/08/14	3.6	3.4	3.5	3.5	3.4	3.4	3.3	3.2	3.6	2.8	3.1	2.5	3.1	0.0	Dry	x	x	x	x	x
	220 XII	555	25/08/11	15/10/14	4.1	4.0	4.4	4.3	4.1	4.0	4.0	3.6	3.8	3.5	3.6	3.1	3.5	3.0	5.5	0.0	3.0	0.0	2.3	0.0
	3598 XII	535	10/02/11	20/08/14	4.1	4.0	4.5	4.2	3.7	3.6	3.5	3.5	3.1	2.8	2.8	2.5	2.5	2.3	2.5	0.0	2.0	1.1	2.0	0.0
	3598 XII	559	03/09/11	22/10/14	4.5	4.3	4.6	4.5	4.6	4.4	4.5	4.0	4.4	4.1	3.5	3.1	3.4	3.1	3.1	3.0	2.8	2.6	1.6	0.0
	220 XII	552	23/07/11	23/10/14	3.7	3.2	3.5	3.3	3.3	3.0	3.3	3.0	3.1	3.0	2.7	2.4	2.1	1.8	2.1	0.0	2.0	0.0	2.0	0.0
	5604 XII	569	11/05/12	19/04/15	2.7	2.3	4.5	4.0	4.0	3.8	4.0	3.1	4.0	3.0	3.8	3.0	3.5	3.0	3.2	1.6	3.1	1.5	1.6	1.1
	183 XII	547	28/05/11	28/05/15	4.0	3.6	4.8	4.9	4.5	4.1	4.5	4.0	4.1	4.0	4.1	3.6	3.6	3.0	3.1	2.5	3.0	0.0	2.8	0.0

	2154 XI	377	28/01/10	02/06/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	3267 XI	469	24/08/10	18/07/15	3.8	3.6	3.7	3.2	3.1	3.0	2.5	2.4	2.5	2.1	2.1	2.0	2.1	0.0	2.0	0.0	3.0	0.0		
	R11 XII	549	06/07/11	23/07/15	1.5	1.4	3.4	3.0	3.4	3.1	3.0	2.6	2.9	2.1	2.1	2.0	4.0	0.0	2.1	1.4				
	R11 XII	566	03/11/11	25/07/15	4.7	4.4	4.3	4.3	4.1	4.0	5.0	5.0	4.1	4.0	4.1	3.8	3.6	3.5	2.8	3.0				
	2148 XI	492	25/09/10	20/09/15	Gifted	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2177 XII	580	17/07/12	24/09/15	5.0	5.0	5.1	5.2	4.6	4.1	4.6	4.0	4.0	3.4	3.6	3.4								
	5720 XII	573	26/06/12	09/10/15	4.1	3.5	4.6	4.5	4.1	4.0	4.1	4.0	3.1	3.0	3.1	2.8								
	2304 XIII	583	15/08/12	12/10/15	5.6	5.4	5.6	5.1	5.5	5.0	5.4	5.0	5.1	4.9	5.0	3.5								
	3964 XIII	590	17/10/12	06/11/15	4.7	4.5	4.9	4.6	4.1	4.2	4.1	4.0	4.0	3.6										
Kirara																								
	5496 XI	289	22/09/10	30/06/14	3.5	3.6	3.5	3.5	3.5	3.6	3.6	3.4	3.0	3.0	3.2	3.0	3.1	2.5	3.0	2.1	2.1	1.5	2.0	0.0
	5489 XI	275	30/07/10	30/07/14	3.6	3.6	3.4	3.4	3.3	3.3	3.2	3.1	3.0	3.0	2.4	2.2	2.1	2.0	1.5	1.3	2.5	0.0	2.0	0.0
	KHR XII	324	27/08/11	05/11/14	4.6	4.5	6.0	6.3	6.1	6.0	6.0	5.4	5.6	5.0	5.0	4.5	4.3	4.1	4.0	3.1	3.7	3.0	3.1	2.7
	3591 XI	262	10/05/10	11/12/14	4.4	4.0	4.1	3.7	4.1	3.7	3.5	3.2	3.3	3.0	3.0	3.0	2.6	2.3	2.5	2.0	2.0	2.0	2.0	1.9
	3598 XII	323	03/08/11	17/12/14	3.7	3.3	4.8	4.3	4.6	4.1	4.4	4.0	4.0	3.5	3.6	3.3	3.5	3.2	3.1	3.0	3.0	2.5	3.0	2.5
	3598 XII	321	25/07/11	26/12/14	4.1	4.0	4.0	3.9	3.9	3.9	3.5	3.4	3.1	3.3	3.1	3.0	3.0	3.0	2.6	2.4	2.1	2.0	2.0	1.8
	3598 XII	306	28/02/11	05/01/15	3.5	3.1	3.5	3.2	3.5	3.3	3.4	3.1	3.4	3.1	3.1	3.0	3.2	3.0	3.0	2.4	3.0	2.5	3.0	2.0
	5710 XII	322	27/07/11	05/01/15	3.4	3.2	3.7	3.5	3.8	3.5	3.5	3.4	3.4	3.3	3.0	3.0	3.1	3.0	2.8	3.0	2.4	2.4	3.0	2.1
	3598 XII	328	18/10/11	12/06/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	R10 XII	329	02/10/11	20/07/15	4.1	4.0	4.8	4.3	4.6	4.1	4.4	4.0	5.0	4.3	4.1	3.8	3.1	3.0	2.6	2.4	2.6	2.1		
	4059 XIII	336	08/08/12	24/08/15	3.7	3.6	3.6	3.4	4.3	4.2	4.0	3.7	3.9	3.3	3.6	3.1	3.1	3.0						
Sarsod																								

	5710 XII	107	25/07/11	28/07/14	4.6	4.5	4.7	4.5	3.8	3.7	4.2	4.0	3.3	3.4	4.6	4.4	4.2	4.0	1.7	1.5	Dry	x	x	x
	5496 XI	67	29/10/10	09/08/14	3.2	3.1	4.0	4.2	4.1	4.2	5.1	5.2	3.8	3.7	2.5	2.4	2.4	2.3	2.2	2.0	1.5	0.0	Dry	x
	R10 XII	112	18/08/11	16/10/14	2.6	2.5	4.6	4.4	3.3	3.1	4.7	4.5	4.3	4.5	4.8	4.7	3.2	3.0	1.5	0.0	1.0	0.0	1.0	0.0
	220 XII	128	25/11/11	23/10/14	5.3	5.4	4.5	4.3	5.1	5.0	5.0	4.8	5.6	5.4	4.0	4.3	3.7	3.8	3.0	3.1	2.8	2.5	2.2	2.0
	2176 XII	100	23/05/11	02/11/14	4.5	4.2	4.1	4.2	4.4	4.7	4.6	4.3	4.5	4.7	4.3	4.5	4.2	4.0	4.7	4.9	4.0	4.2	3.0	2.8
	183 XII	101	12/06/11	07/11/14	3.7	3.5	4.5	4.5	4.7	4.5	4.6	4.4	5.2	5.3	5.0	5.2	3.3	3.1	3.4	3.6	3.6	3.8	2.0	1.8
	2269 XIII	156	28/07/12	12/11/14	4.0	3.7	4.6	4.3	4.5	4.6	4.4	4.6	3.9	3.7	3.7	3.5	3.0	3.2	2.5	2.7	4.3	4.1	3.3	3.1
	220 XII	106	13/07/11	23/02/15	4.8	4.6	4.8	4.9	4.8	4.6	3.8	3.9	3.8	3.9	3.7	3.5	3.5	3.7	3.3	3.1	3.3	3.1	2.7	2.5
	183 XII	140	26/06/12	18/04/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	3267 XI	30	26/08/10	01/05/15	4.7	4.6	5.0	4.7	5.0	5.2	Gifted	x	x	x	x	x	x	x	x	x	x	x	x	x
	2176 XII	142	02/07/12	08/05/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	5710 XII	131	02/01/12	04/06/15	4.0	4.2	5.4	5.2	4.6	4.3	4.0	4.3	2.7	2.5	2.0	1.7	3.2	3.0	2.0	0.0	0.0	1.5	Dry	x
	5943 XIII	166	05/09/12	05/06/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	5943 XIII	167	12/09/12	10/06/15	4.3	4.7	5.3	5.4	5.3	5.2	5.8	5.6	4.2	4.0	3.9	3.7	3.7	3.5	3.7	3.5	2.7	2.5	2.3	2.0
	5710 XII	129	26/11/11	26/07/15	4.6	4.5	5.6	5.4	2.7	2.5	4.2	4.0	4.2	4.0	3.7	3.5	3.3	3.1	3.0	2.8				
	2269 XIII	171	30/09/12	29/07/15	3.4	3.2	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2185 XII	147	12/07/12	09/08/15	4.2	4.0	4.5	4.2	4.4	4.2	3.7	3.5	2.8	2.6	4.8	4.6	4.3	4.1	3.4	3.2				
	5720 XII	133	31/05/12	08/08/15	3.5	3.7	3.9	3.6	4.3	4.1	2.8	2.5	3.3	3.1	2.7	2.5	Dry	x	x	x	x	x	x	x
	183 XII	141	17/06/12	10/09/15	4.9	4.6	2.3	2.1	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	3964 XIII	173	24/09/12	15/09/15	4.1	4.4	4.6	4.5	4.4	4.3	5.4	5.2	5.2	5.0	4.6	4.4	Dry	x	x	x	x	x	x	x
	3964 XIII	174	27/09/12	03/10/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

	2185 XII	148	15/07/12	09/11/15	2.7	2.5	3.7	3.5	4.8	4.6	4.5	4.2	4.3	4.1										
	2269 XIII	206	18/08/13	06/11/15	3.9	3.7	4.4	4.2	5.7	5.5	3.8	3.6	4.8	4.6										
	5943 XIII	178	02/11/12	16/11/15	4.2	4.0	4.7	4.5	5.6	5.4	3.9	3.7	3.8	3.5										
	3964 XIII	169	18/09/12	25/11/15	5.3	5.1	5.4	5.2	5.9	5.7	4.8	4.6												
	3964 XIII	190	16/12/12	02/12/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	4059 XIII	153	21/07/12	08/12/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bichpari																								
	220 XII	54	02/09/11	04/09/14	4.0	4.2	4.1	4.3	3.7	3.5	4.3	4.1	4.1	4.0	3.4	3.2	2.7	2.5	3.0	2.8	0.0	2.6	1.0	0.5
	5604 XII	65	11/12/11	08/09/14	5.0	5.1	4.0	4.2	4.5	4.2	3.7	3.6	3.6	3.8	3.8	3.5	3.5	3.2	3.2	3.0	2.7	2.6	2.0	0.0
	183 XII	55	05/10/11	19/11/14	3.7	3.5	5.2	5.1	5.2	5.0	5.7	5.6	4.0	4.2	4.4	4.6	2.5	2.8	2.0	2.2	1.5	1.3	1.0	0.5
	3964 XIII	108	25/10/12	26/04/15	3.5	3.2	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2176 XII	78	12/07/12	18/05/15	3.8	3.7	5.0	4.8	5.2	5.1	6.0	5.7	4.0	3.7	3.2	3.0	2.6	2.4	2.7	2.5	2.5	2.3	0.0	2.0
	4059 XIII	88	20/08/12	15/05/15	4.8	4.6	4.8	5.0	6.0	6.2	5.7	5.9	3.6	3.4	3.9	3.7	3.7	3.4	3.1	2.8	3.2	3.0	2.2	2.0
	12 XI	13	15/09/10	23/06/15	5.6	5.4	5.1	4.9	3.7	3.5	2.8	2.5	2.5	2.3	2.6	2.4	3.4	3.3	2.6	2.4	2.4	2.2		
	3598 XII	48	01/07/11	12/07/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	5720 XII	71	12/05/12	07/08/15	3.2	3.1	4.7	4.5	4.3	4.0	4.1	3.8	4.4	4.2	4.6	4.4	Dry	x	x	x	x	x	x	x
	R11 XII	76	02/07/12	13/08/15	3.5	3.7	3.6	3.3	3.8	3.5	3.7	3.5	3.9	3.7	4.2	4.0	3.2	3.0	3.0	2.8				
	R11 XII	74	26/06/12	14/08/15	4.2	4.0	4.2	4.1	4.2	4.0	3.7	3.5	4.1	3.8	4.3	4.1	3.4	3.2	3.7	3.5				
	220 XII	81	20/07/12	29/08/15	5.3	5.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	3964 XIII	104	05/10/12	05/09/15	3.7	3.5	3.8	3.6	4.2	4.0	4.3	4.1	3.9	3.7	2.9	2.7	2.8	2.6						
	4059 XIII	116	05/01/13	05/09/15	5.0	4.5	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	5604 XII	62	30/11/11	07/10/15	5.0	4.7	4.9	4.8	5.2	5.0	2.8	2.6	3.5	3.2	3.2	3.0								

	858 XIII	124	04/05/13	10/11/15	4.8	4.6	4.7	4.5	4.7	4.5	3.7	3.5	2.7	2.5										
	4059 XIII	94	10/09/12	18/11/15	3.9	3.7	5.9	5.7	5.2	5.0	4.2	4.0	2.2	4.1										
	2176 XII	73	18/05/12	18/11/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	3964 XIII	95	30/08/12	20/11/15	4.8	4.6	4.8	4.6	3.8	3.6	3.4	3.2												
Baddo Patti																								
	2176 XII	8	25/09/11	01/08/14	3.0	3.0	3.5	3.5	3.5	4.5	4.0	3.5	4.0	4.0	3.5	3.4	2.2	2.0	2.5	1.5	2.0	0.0	1.7	0.0
	3598 XII	7	16/09/11	22/06/15	5.5	5.1	5.7	5.3	5.4	5.0	4.2	4.0	4.0	3.7	4.4	4.0	4.2	3.8	3.5	3.1	3.2	3.0		
	183 XII	10	08/10/11	10/07/15	5.1	4.7	5.2	4.8	5.5	5.1	5.1	4.7	4.9	4.7	4.3	4.0	4.1	3.7	4.1	3.5	4.0	3.5		
	2269 XIII	35	20/11/12	28/09/15	5.3	4.7	5.5	5.1	5.1	4.7	5.1	4.5	4.6	4.1	4.5	4.3								
	183 XII	15	19/11/11	14/10/15	4.6	4.4	5.1	4.8	5.7	5.2	5.4	5.1	5.5	4.7	5.1	4.7								
	183 XII	6	04/09/11	16/10/15	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bugana																								
	2304 XIII	8	25/07/12	08/09/15	4.8	4.6	4.4	4.2	4.4	4.2	4.2	4.1	3.4	3.2	3.4	3.3	2.1	1.9	Sold	x	x	x	x	x
	5943 XIII	18	02/09/12	12/10/15	4.9	4.7	4.6	4.5	4.5	4.3	3.2	3.2	3.5	3.4	3.2	3.1								
	R11 XII	424	19/02/12	18/10/15	4.6	4.5	4.8	4.7	4.4	4.3	4.1	4.0	3.8	3.7	2.5	2.4	Sold	x	x	x	x	x	x	x
	183 XII	4	16/07/12	15/11/15	4.9	4.8	4.5	4.3	4.2	4.1	4.2	4.1	4.2	4.1										

F 15. Set-wise AI, Conception and daughters retained

Set No.	Duration	Bulls (n)	AI	Preg	Calving		Progenies			
					Total	F	Calved (n)	Av. AFC (month)	Av. Milk Yield (kg/day)	Available (n)
VIII	Jan 2004 to July 2005	17	1679	737	440	199	23	40.56	6.86	-
IX	Aug 2005 to Jan 2007	14	3418	1744	1222	558	89	44.28	7.88	-
X	Jan 2007 to Oct 2008	13	3400	1795	1252	600	100	42.21	7.52	-
XI	Oct 2008 to March 2010	14	4058	2066	1825	892	128	42.39	7.11	-
XII[#]	March 2010 to Sept 2011	12	4569	2356	1119	538	127	40.95	7.56	39
XIII[#]	Sept 2011 to March 2013	9	6251	3197	1989	937	40	35.52	8.40	410
XIV	March 2013 to July 2014	10	4144	2261	1326	638	-	-	-	349
XV	July 2014 to Dec 2015	15	6955	3762	1630[*]	773[*]	-	-	-	547

[#] Calving and milk recording of progenies of 12th and 13th set is in progress

* Calving recorded till March 2016

F 16. Performance of FPT Programme on Farmer's Buffaloes

Duration	AI	Pregnancies	CR%	Calvings	Females Born	Daughters Recorded	Av. AFC (months)	Av. Milk Yield (kg/day)	Daughters Available for Future Recording
2001-02	139	25	17.98	15	7	-	-	-	-
2002-03	540	236	43.70	147	73	12	42.06	7.28	-
2003-04	1001	356	35.56	237	129	15	46.84	6.43	-
2004-05	1298	566	43.61	361	173	21	39.66	6.51	-
2005-06	1999	1009	50.48	744	345	55	43.80	7.75	-
2006-07	2102	1139	54.19	650	305	48	44.40	8.09	-
2007-08	2132	1104	51.78	694	341	58	42.77	7.60	-
2008-09	2176	1086	49.91	955	477	72	41.44	7.04	-
2009-10	2803	1450	51.73	1276	627	88	41.84	7.25	-
2010-11	3433	1743	50.77	787	377	91	41.46	7.43	20
2011-12	3308	1756	53.08	1103	557	73	37.86	8.21	161
2012-13	4204	2104	50.05	1247	553	-	-	-	275
2013-14	3962	1903	48.03	1079	517	-	-	-	285
2014-15	4129	2218	53.72	1614	776	-	-	-	522
Overall	33226	16695	50.25	10909	5257	533	41.95	7. 44	1263
2015-16	4434			207[*]	97[*]				82

[*] Calvings recorded in Feb & March 2016 against AI done in April & May 2015

Project Co-ordinator's observations on field unit performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Expenditure as per AUC	
Total	ICAR Share		ICAR Share	State Share
11.52580	11.52580	11.52580	11.52580	--

A total of 4129 artificial inseminations were performed in ten adopted villages with the semen of 6 test bulls of 14th set and 15 bulls of 15th set with conception rate 52.75 % (1993/4129). In this period 1993 pregnancies were confirmed and 1093 calving (565 males, 528 females) were recorded. Ninety three progenies, 1 of 10th, 39 of 11th, 52 of 12th and 1 of 13th set were also calved and the monthly test day milk recordings are in progress. The average age at first calving for these 93 daughters calved was 42.20 months. Milk recording of 52 daughters completed, 20 daughters sold before the lactation was completed and recording of 66 daughters are in progress. The physical identification using injectable microchips has been done in all female progenies born in the field. As on 31st March 2015 a total of 904 female progenies of 11th to 14th set are available in the field for future milk recordings, out of which 289, 546 and 69 daughters were less than 1 year, 1 to 3 years and more than three years, respectively.

Recommendations:

- Follow up action be taken to record maximum no daughters' first lactation milk yield for PT.
- Incentives to the livestock owner may be provided for getting the more daughters recorded on test day milk of 1st lactation.
- Complete milk recording of daughters of bull used for test mating from set 1st to 12th be send to coordinating unit for comprehensive analysis.

FIELD UNIT: GADVASU, LUDHIANA

Financial Statement :

Statement showing budget sanctioned, amount spent for the period 1st April, 2015 to March, 2016.

	Budget Sanctioned (Rs.)	Amount Spent (Rs.)	Balance (Rs.)
Salary	28,15,474	27,86,323	29,151
T.A.	1,00,000	97,650	2,350
Contingencies			
Recurring	16,00,000	16,00,000	0
Equipments	2,00000	2,00,000	0
Total	47,15,474	46,83,973	31,501

Staff and Infrastructure Buildup during the year :

i) Staff in position: Principal Investigator : Dr. Puneet Malhotra (Asstt. Professor)

Co Principal Investigator : Dr. Simarjeet Kaur (Asstt. Animal Geneticist)

Sr. No.	Name & Designation of the person employed on the sanctioned post with pay scale	Pay scale	Total time spent for the project	Remarks
1.	Dr. Ajit Kumar, Asstt. Prof.	Rs. 15600-39100 +8000	Full Time	
2.	Sh. Sikander Lal Milk Recorder Supervisor	Rs. 10300-34800 +3800	Full Time	
2.	Sh. Hans Raj Stock Assistant	Rs. 10300-34800 +3200	Full Time	Retired on 31.12.2015

F 1. Herd Strength of Registered females at Different Field Centers during 2015-16

Centers/ Village	OB	Addition			Deduction		CB
		New Reg.	Birth	Purchase/ Traced	Sold	Death	
AITIANA	79	38	11	2	2	2	115
BARSAL	136	30	9	0	27	1	138
BATHA DHUA	242	72	33	0	7		307
BHAROWAL KALAN 1 & 2	49	4	5	0	5		48
BHUNDRI 1 & 2	308	52	17	3	36		327
BOPARAI KALAN	41	6	0	0	6		41
CHIMNA	188	111	4	0	10	1	288
CHOWKIMAN	99	6	6	0	14		91
DHAT	22	0	1	0	0		22
GURUSAR KAUNKE	113	18	0	0	2	2	127
JANDI	26	3	3	1	1		29
JASOWAL	226	76	13	0	34		268
KAILPUR	509	0	29	0	85	8	416
KEHRA BET	31	15	0	0	3		43
KHUDAI CHAK	221	32	20	0	27		226
MANDIANI	35	0	2	0	0		35

PONNA	66	20	2	1	7		80
RAQBA	21	8	0	0	3		26
SADARPURA	101	19	7	5	10		115
SAWADDI KHURD	60	28	8	3	3		88
TALWANDI KHURD	95	16	6	0	7		104
TALWARA	65	0	0	0	0		65
WALIPUR KALAN	75	29	7	0	2		102
WALIPUR KHURD 1 & 2	111	32	10	0	5		138
Total	**2919**	**615**	**193**	**15**	**296**	**14**	**3239**

F2. Status of breedable females at different field unit centers during 2015-16

Centers/ Village	Heifers >3 years		Buffalo (NP)		Buffalo Pregnant	
	Total	Pregnant	In milk	Dry	In milk	Dry
Aitiana	90	30	9	20	4	4
Barsal	150	25	15	10	18	19
Bhatha Dhua	105	28	26	8	16	19
Bharowal Kalan 1 & 2	190	40	30	3	14	31
Bhundri 1 & 2	188	92	23	4	33	37
Boparai Kalan	139	32	14	3	13	26
Chimna	190	238	43	21	25	30
Dhatt	165	18	10	3	13	15
Walipur Kalan	350	70	18	4	25	55
Gurusar	192	32	19	3	12	19
Jandi	235	19	16	3	13	19
Kailpur	180	140	34	6	90	88
Kehra Bet	124	19	19	4	11	22
Khudai Chak	82	84	32	6	32	63
Pandori	65	2	2	3	4	6
Raqba	70	66	18	4	18	40
Swaddi Khurd	188	64	21	4	22	51
Walipur Khurd 1 & 2	250	82	35	3	19	47
Chowkiman	260	28	16	3	4	14
Sadarpura	221	30	19	3	14	19
Jasowal	209	130	26	4	41	132
Mandiani	75	20	19	3	13	18
Talwandi Khurd	91	41	19	4	14	19
Sidhwan bet	181	47	13	3	18	24
Total	**3990**	**1377**	**496**	**132**	**486**	**817**

F3. Monthly A.I.'s at different field unit centers during the period from 4/2015 to 3/2016

CENTRE/ MONTH	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	Grand Total
AITIANA	11	5	7	12	10	10	14	13	12	18	6	9	127
BARSAL	15	13	18	16	9	13	15	15	13	13	15	9	164
BATHA DHUA	9	10	9	0	8	8	4	2	8	13	8	5	84
BHAROWAL KALAN 1 (BHAROWAL KHURD)	10	13	3	13	6	20	30	22	30	20	10	5	182
BHUNDRI DAIRY	0	0	3	0	3	4	0	0	5	1	0	2	18
BOPARAI KALAN	16	28	12	8	20	20	7	10	7	5	10	6	149
CHIMNA	53	59	45	49	46	77	62	76	75	60	30	51	683
CHOWKIMAN	5	8	11	9	9	19	8	14	28	18	20	6	155
DHAT	4	6	5	6	5	4	4	3	6	3	2	6	54
BHAROWAL KALAN 2 (GKB)	5	13	5	8	18	30	23	42	17	20	10	10	201
BHUNDRI 1 (GORAHOOR)	31	20	20	20	20	20	0	20	25	20	0	13	201
GURUSAR	10	11	15	12	18	15	14	17	16	48	10	14	200
JANDI	7	4	3	3	9	5	5	5	5	13	15	10	84
JASOWAL	30	50	50	49	52	108	109	80	62	42	25	19	676
KAILPUR	18	55	42	32	39	56	65	71	74	69	66	82	669
KEHRA BET	6	7	6	8	7	17	16	21	15	19	12	15	149
KHUDAI CHAK	21	11	15	21	19	32	24	39	45	32	10	18	287
SAWADDI KALAN (MAJRI)	7	6	12	21	15	19	6	13	15	10	18	8	150
MANDIANI	0	6	0	0	0	12	12	11	11	10	9	5	76
PONNA	13	18	6	14	24	21	40	37	31	10	7	5	226
SIDHWAN BET (RAMGARH)	12	10	23	11	16	21	15	21	28	12	25	10	204
RAQBA	19	10	20	14	25	35	27	40	18	15	13	18	254
SADARPURA	17	18	12	10	10	15	18	15	15	20	15	15	180
SAWADDI KHURD	0	11	12	17	37	41	33	38	27	30	50	14	310
TALWANDI KHURD	10	11	8	17	10	13	20	23	29	25	20	17	203
WALIPUR KALAN	18	25	20	19	25	28	28	28	50	20	25	25	311
WALIPUR KHURD	18	18	15	22	16	33	40	36	40	25	26	31	320
Grand Total	**365**	**446**	**397**	**411**	**476**	**696**	**639**	**712**	**707**	**591**	**457**	**428**	**6325**

F4. Bull-wise A.I's. at different field unit centers during the period from 4/2015 to 3/2016

BULL NO	Set No.	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	Grand Total
2371	15	173	70	6	13		193	208	37					700
2412	15					52	215	133	82	50	10			542
2417	15	2		100	169	52	33	128	295	275	343	41		1438
2429	15				179	36	52	55	197	238	60			817
2459	15						64	98	14					176
4324	15		52	233	30	38	3							356
4328	15		11											11
4354	15					286	132	17	2					437
4363	15	50	4											54
4403	15	16	22											38
4438	15			3		3	4							10
6007	15	5			17				20	56				98
6139	15	56	21	12					20	40	16	15		180
6290	15	61	96							36				193
6405	15	2	170	43	3	9			45	12				284

2383	16												105	105
2501	16												14	14
4592	16										68	6		74
4705	16										48	225	235	508
4889	16										46	170	74	290
Grand Total		**365**	**446**	**397**	**411**	**476**	**696**	**639**	**712**	**707**	**591**	**457**	**428**	**6325**

F5: Month –wise Conception at field unit centers during the period from 4/2015 to 3/2016

CENTRE	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	Grand Total
AITIANA	10	9	10	4	4	2	3	6	4	4	6	6	68
BARSAL	11	8	12	9	7	7	9	8	5	7	7	7	97
BATHA DHUA	11	6	17	9	4	5	4		3	4	2	1	66
BHAROWAL KALAN 1 (BHAROWAL KHURD)	12	7	9	4	5	7	1	8	3	10	14	10	90
BHUNDRI DAIRY				1			2		2	2			7
BOPARAI KALAN	10	11	4	2	7	12	5	4	7	8	3	5	78
CHIMNA	59	60	38	32	24	28	20	21	20	33	26	31	392
CHOWKIMAN	3	5	7	3	2	3	4	4	4	8	3	4	50
DHAT	3	2	2	5	2	3	2	3	2	2	2	1	29
BHAROWAL KALAN 2 (GKB)	14	17	13	7	3	6	2	3	8	14	13	18	118
BHUNDRI/ GORAHOOR	18	20	19	15	15	9	10	9	9	10		9	143
GURUSAR	7	5	8	2	4	5	6	5	8	6	7	6	69
JANDI	8	4	2	4	4	2	2	1	4	2	3	3	39
JASOWAL	54	30	31	20	13	22	22	22	23	47	48	34	366
KAILPUR	41	21	22	21	7	23	17	12	16	24	28	30	262
KEHRA BET	6	4	4	2	3	3	3	4	3	7	8	9	56
KHUDAI CHAK	25	14	14	10	8	4	6	9	8	13	9	10	130
SAWADDI KALAN (MAJRI)	14	11	10	10	3	2	5	10	7	10	4	6	92
MANDIANI	3					3				6	5	4	21
PONNA	10	7	17	4	5	7	3	6	9	8	18	15	109
SIDHWAN BET (RAMGARH)	11	8	4	5	6	4	10	5	7	10	7	10	87
RAQBA	5	10	9	11	8	4	8	6	11	16	10	17	115
SADARPURA	8	7	7	4	8	9	5	4	6	7	10	7	82
SAWADDI KHURD	15	20	10			4	5	6	15	17	12	14	118
TALWANDI KHURD	9	8	7	10	5	6	4	8	5	7	8	11	88
WALIPUR KALAN	19	10	15	11	8	10	8	9	11	12	13	11	137
WALIPUR KHURD	12	19	18	11	8	7	6	12	6	14	17	15	145
Grand Total	**398**	**323**	**309**	**216**	**163**	**197**	**172**	**185**	**206**	**308**	**283**	**294**	**3054**

F6: Month –wise Calving at different field unit centers during the period from 4/2015 to 3/2016

CENTRE	4/15		5/15		6/15		7/15		8/15		9/15		10/15	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
AITIANA	2	2	3	3	4	5	3	4	6	7	4	3	2	2
BARSAL	2	3			2	2	3	2	3	4	4	3	3	4
BATHA DHUA	2	3	2	3	2	3	2	2	3	4	3	4	4	4
BHAROWAL KALAN 1 (BHAROWAL KHURD)	3	4	1	1	1	1	3	3	2	2	5	8	6	7
BHUNDRI 2	4	3	5	5	4	5	4	5	6	7	4	6	5	6
BHUNDRI/ GORAHOOR														
BOPARAI KALAN	4	5	2	2	3	3	2	3	3	4	2	2	5	5
CHIMNA	14	16	10	11	12	15	16	19	22	27	28	32	33	36
CHOWKIMAN	2	1		1	1	1	1	2	2	2	2	2	2	2
DHAT	2	3	1	1	2	2	2	2	1	1	2	3	3	3
BHAROWAL KALAN 2 (GKB)	4	4	2	2	3	4	4	5	10	13	8	10	9	13
BHUNDRI 1 (GORAHOOR)	1	1		1			1		1	1	2	3	1	1
GURUSAR	2	2	2	2	2	2	2	2	1	1	2	2	3	2
JANDI			1	1	3	4			3	3	4	5	5	5
JASOWAL	2	1	4	4	7	8	9	10	14	17	22	26	16	18
KAILPUR	10	13	7	14	9	11	14	15	23	30	21	33	19	34
KEHRA BET	2	3	2	3	2	3	2	2	3	3	3	3	2	3
KHUDAI CHAK	4	5	2	2	3	3	5	5	6	7	4	5	10	9
MANDIANI	1	1	2	2							4	6	2	3
PONNA	2	2	1	1	1	2	3	3	3	3	3	4	4	3
RAQBA	4	6	4	6	5	6	5	8	6	8	5	8	5	7
SADARPURA	3	2	2	1	2	3	4	1	4	4	3	3	5	4
SAWADDI KALAN (MAJRI)	2	2	2	2	1	3	5	6	9	9	6	6	8	10
SAWADDI KHURD	2	1	4	4	3	4	4	4	4	3	5	6	7	8
SIDHWAN BET (RAMGARH)	2	3	3	3	2	2	4	5	3	4	3	2	2	2
TALWANDI KHURD	3	2	3	3	2	2	3	3	3	4	5	4	3	4
WALIPUR KALAN	7	9	3	4	6	9	4	6	4	8	5	7	4	7
WALIPUR KHURD	2	3	3	3	5	4	4	4	7	11	7	12	8	11
Grand Total	**88**	**100**	**71**	**85**	**87**	**107**	**109**	**121**	**152**	**187**	**166**	**208**	**176**	**213**

Cont… **F6**

CENTRE	11/15		12/15		1/16		2/16		3/16		Total	
	F	M	F	M	F	M	F	M	F	M	F	M
AITIANA	3	3	2	3	2	3	2	1	2	1	35	37
BARSAL	5	4	3	4	4	6	4	4	3	3	36	39
BATHA DHUA	4	6	3	3	7	9	4	5	2	2	38	48
BHAROWAL KALAN 1 (BHAROWAL KHURD)	5	4	3	4	3	4	2	2	2	3	36	43
BHUNDRI 2	7	7			8	6	0	1			47	51
BHUNDRI/ GORAHOOR									6	7	6	7
BOPARAI KALAN	4	5	5	5	2	2	1	1	3	3	36	40
CHIMNA	22	24	25	27	13	16	10	12	9	10	214	245
CHOWKIMAN	1	1	1	2	2	3	1	1	1	1	16	19
DHAT	1	2	1	1	1	1	2	3	1	1	19	23
BHAROWAL KALAN 2 (GKB)	5	7	6	8	6	7	3	3	1	2	61	78
BHUNDRI 1 (GORAHOOR)	1	1	7	8	1	0	5	7			20	23

GURUSAR	2	2	2	1	2	2	1	1	2	1	23	20
JANDI	2	3	1	2	1	1	1	1	1	1	22	26
JASOWAL	20	24	10	12	10	11	8	8	6	5	128	144
KAILPUR	17	22	9	11	8	12	9	11	3	3	149	209
KEHRA BET	3	3	2	2	2	2	1	1	1	2	25	30
KHUDAI CHAK	6	8	5	6	3	5	4	3	2	2	54	60
MANDIANI	1	2									10	14
PONNA	2	3	2	2	4	6	2	1	2	1	29	31
RAQBA	2	3	4	5	3	5	4	5	3	4	50	71
SADARPURA	3	3	3	3	3	2	2	2	3	2	37	30
SAWADDI KALAN (MAJRI)	6	7	5	6	5	5	3	5	2	1	54	62
SAWADDI KHURD	3	5	6	7	3	4					41	46
SIDHWAN BET (RAMGARH)	6	4	4	3	1	1	2	2	2	3	34	34
TALWANDI KHURD	3	5	4	4	3	3	3	4	2	2	37	40
WALIPUR KALAN	7	10	4	5	6	7	5	6	4	4	59	82
WALIPUR KHURD	8	3	8	10	7	10	5	3	3	4	67	78
Grand Total	**149**	**171**	**125**	**144**	**110**	**133**	**84**	**93**	**66**	**68**	**1383**	**1630**

F= Female M= Male

F7: Bull–wise Conception at field unit centers during the period from 4/2015 to 3/2016

BULL NO	Set No.	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	Grand Total
2371	15				31	77	30	3	6		84	92	14	337
2412	15									23	97	57	37	214
2417	15	10				1		43	76	23	14	58	124	349
2429	15								82	17	22	24	81	226
2459	15	45									31	43	5	124
4324	15	11					25	99	14	17	2			168
4328	15	220	79	4	7		4							314
4354	15	5								120	56	9	1	191
4363	15	18	7	39	108	22	2							196
4403	15		74	176	6	7	9							272
4438	15	70	158	22	1			2		2	2			257
6007	15		5	39	30	2			6				8	90
6139	15			29	26	25	10	5					9	104
6290	15	12			7	28	41							88
6405	15	7				1	76	20	1	4			15	124
Grand Total		**398**	**323**	**309**	**216**	**163**	**197**	**172**	**185**	**206**	**308**	**283**	**294**	**3054**

F8 Bull–wise calving at different field unit centers during the period from 4/2014 to 3/2015

MONTH/	4/15		5/15		6/15		7/15		8/15		9/15		10/15	
BULL NO.	F	M	F	M	F	M	F	M	F	M	F	M	F	M
2234					1	1								
2357	11	9	20	26	31	41	1	1	4	5				
2369	69	82	47	55	30	37	19	17						
2371							3	3	8	10	2	2	3	3
2412											34	46	13	17
2417											17	19	9	11
2429									13	15	13	14	6	5
2459									65	78	20	29	29	33
4093	5	4			3	4	3	5						

4100									1	1				
4324					6	6	24	27	21	27	45	52	36	40
4328														
4354					3	3	18	21	21	23	30	40	23	33
4363					13	13	4	4					9	7
4403														
4438														
6007							5	6	7	9			38	52
6014			4	4										
6044	3	5												
6136					0	2								
6139							10	11	2	3	5	6		
6290							15	17	1	1			8	10
6405							7	9	9	15			2	2
Grand Total	88	100	71	85	87	107	109	121	152	187	166	208	176	213

Cont… F8

MONTH/	11/15		12/15		1/16		2/16		3/16		Total	
BULL NO.	F	M	F	M	F	M	F	M	F	M	F	M
2234											**1**	**1**
2357											**67**	**82**
2369											**165**	**191**
2371							12	14	30	33	**58**	**65**
2412											**47**	**63**
2417	7	2							0	1	**33**	**33**
2429											**32**	**34**
2459	16	21									**130**	**161**
4093											**11**	**13**
4100											**1**	**1**
4324	3	5									**135**	**157**
4328	85	98	33	35	2	2	3	3			**123**	**138**
4354	2	2									**97**	**122**
4363	6	6	2	2	13	15	40	47	10	9	**97**	**103**
4403			27	35	61	75	3	3	3	3	**94**	**116**
4438	24	29	61	71	8	11	0	1			**93**	**112**
6007			2	1	17	18	12	12	1	1	**82**	**99**
6014											**4**	**4**
6044											**3**	**5**
6136											**0**	**2**
6139					9	12	12	11	10	9	**48**	**52**
6290	4	6					2	2	12	11	**42**	**47**
6405	2	2							0	1	**20**	**29**
Grand Total	149	171	125	144	110	133	84	93	66	68	**1383**	**1630**

F = Female M = Male

F9. Live female progeny at field unit centers from (0 to ≤ 6mo.) as on 3/2016.

63 live female progeny (0 to ≤ 6 month.) available in the field unit centres.

F10. Live female progeny at different field unit centers from (>6 to ≤ 12mo.) as on 3/2016.

222 live female progeny (>6 to ≤ 12month) available in the field unit centres.

F11 : Live female progeny at different field unit centers (>1 to ≤3 years) as on 3/2016

1488 live female progeny (>1 to ≤3 years) available in the field unit centres.

F12 : Live female progeny at different field unit centers (>3 years) as on 3/2016

1468 live female progeny (>3 years) available in the field unit centres.

F13 : Daughters calved at different field unit centers during 2015-2016

193 daughters calved during the report period at different field unit centres.

F 14 Daughters recorded at different field units during 2015-2016

Test day milk recording of 146 daughters completed at different field unit during the period.

F15. Bull-wise A.I., Conception, Calving and Daughter's retained till completion of milk recording

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
1667	**6**	**159**	**56**	**18**	**7**	**0**	**0**	**2**	**2**	**2**
1706	6	421	141	130	61	0	0	4	4	4
1713	6	423	208	121	54	0	0	0	0	0
1717	6	497	168	145	65	0	0	4	4	4
1933	6	27	11	5	3	0	0	0	0	0
1944	6	25	11	5	2	0	0	0	0	0
4506	6	210	76	49	21	0	0	1	1	1
4523	6	117	82	65	30	0	0	4	4	4
4619	6	99	52	26	11	0	0	0	0	0
4637	6	124	48	30	12	0	0	3	3	3
4640	6	221	90	75	34	0	0	6	6	6
1727	7	301	109	88	42	0	0	5	5	5
1746	7	594	219	132	67	0	0	9	9	9
1749	7	314	110	84	39	0	0	0	0	0
1796	7	200	80	45	17	0	0	1	1	1
2121	7	85	34	13	6	0	0	0	0	0
2133	7	103	32	26	12	0	0	3	3	3
2184	7	36	28	27	13	0	0	0	0	0
2331	7	61	19	13	7	0	0	2	2	2
2363	7	61	20	8	3	0	0	0	0	0
1492	8	134	43	40	18	0	0	1	1	1
1509	8	101	30	26	13	0	0	1	1	1
1867	8	604	202	173	78	0	0	9	9	9
1868	8	520	199	169	85	0	0	8	8	8
1875	8	980	366	236	105	0	0	7	7	7
1893	8	342	110	88	41	0	0	1	1	1
2250	8	84	33	27	14	0	0	0	0	0
2308	8	136	48	27	12	0	0	3	3	3
2396	8	60	22	16	6	0	0	0	0	0
2422	8	63	30	22	10	0	0	0	0	0
2479	8	81	38	27	13	0	0	1	1	1
2522	8	77	35	28	14	0	0	2	2	2
4813	8	21	12	5	2	0	0	1	1	1
4865	8	103	51	37	20	0	0	0	0	0
5049	8	88	34	23	10	0	0	0	0	0
5054	8	73	25	10	6	0	0	0	0	0
5083	8	75	40	28	14	0	0	0	0	0

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
1575	9	76	29	19	9	0	0	1	1	1
1903	9	785	299	219	97	0	0	14	14	14
1913	9	571	224	146	66	0	0	7	7	7
1940	9	1107	427	272	121	0	0	18	18	18
1964	9	1014	378	267	118	0	0	14	14	14
1994	9	856	301	209	92	0	0	15	15	15
2582	9	165	72	48	26	0	0	6	6	6
2592	9	146	58	35	13	0	0	2	2	2
2720	9	105	39	17	6	0	0	0	0	0
2910	9	54	22	12	6	0	0	0	0	0
5112	9	95	54	40	18	0	0	5	5	5
5197	9	33	13	10	4	0	0	1	1	1
5218	9	76	27	19	9	0	0	0	0	0
5258	9	36	13	6	3	0	0	0	0	0
5312	9	37	14	12	6	0	0	0	0	0
1693	10	52	19	15	6	0	0	0	0	0
2045	10	1431	555	425	187	0	0	49	47	42
2062	10	1190	481	354	162	0	0	39	38	33
2073	10	1022	388	279	129	0	0	25	24	23
2074	10	945	347	253	111	0	0	19	17	16
2083	10	497	195	145	66	0	0	16	16	15
2084	10	10	3	2	1	0	0	0	0	0
2990	10	50	20	13	5	0	0	1	1	1
3103	10	101	47	28	12	0	0	1	1	1
3631	10	70	28	19	8	0	0	1	1	1
5396	10	28	11	9	3	0	0	0	0	
2133	11	3263	1202	759	379	0	0	108	92	44
2148	11	2905	1068	706	338	0	0	110	92	58
2154	11	2558	975	647	322	0	0	123	85	50
3226	11	76	32	23	13	0	0	3	2	1
3255	11	220	104	67	32	0	0	17	9	5
3267	11	53	37	11	5	0	0	2	2	1
3591	11	46	17	12	7	0	0	2	2	1
5496	11	45	18	10	5	0	0	0	0	0
5516	11	35	14	10	5	0	0	1	1	0
HAU12	11	217	91	65	33	0	0	5	3	3
ND6	11	23	8	4	2	0	0	2	2	1
ND8	11	37	13	12	6	0	0	3	0	0
2176	12	2980	1159	913	429	0	0	184	41	6
2177	12	2520	956	672	315	0	0	138	74	32
2185	12	2420	893	626	293	0	0	135	52	12
3598	12	104	36	26	13	0	0	4	4	3
HAU183	12	80	29	17	9	0	0	5	1	0
HAU220	12	35	13	9	5	0	0	2	0	0
KHURANA	12	2	1	0	0	0	0	0	0	0
REDHU11	12	71	23	17	9	0	0	2	0	0

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
2234	13	5060	2129	1651	749	20	54	408	2	0
2269	13	3349	1445	1158	536	10	31	196	7	0
2304	13	6134	2631	2115	985	15	78	480	6	0
3964	13	131	52	45	25	2	8	15	0	0
4059	13	214	85	69	32	7	9	14	0	0
5943	13	31	13	10	5	0	0	1	0	0
2357	14	1640	701	578	262	22	90	0	0	0
2369	14	5454	2323	2001	973	19	242	32	0	0
4093	14	253	109	91	42	9	18	0	0	0
4100	14	110	48	45	24	9	13	1	0	0
4196	14	143	60	73	50	11	0	0	0	0
4439	14	214	87	76	35	13	21	0	0	0
6014	14	146	63	60	31	7	22	0	0	0
6044	14	166	70	68	33	6	16	0	0	0
6136	14	202	89	85	42	2	44	0	0	0
2371	15	854	378	123	58	6	0	0	0	0
2412	15	820	342	110	47	2	0	0	0	0
2417	15	1605	415	66	33	5	0	0	0	0
2429	15	991	304	66	32	0	0	0	0	0
2459	15	917	383	291	130	5	0	0	0	0
4324	15	1121	505	292	135	10	2	0	0	0
4328	15	701	314	261	123	13	1	0	0	0
4354	15	1069	461	219	97	44	0	0	0	0
4363	15	588	257	200	97	9	0	0	0	0
4403	15	624	272	210	94	18	0	0	0	0
4438	15	564	257	205	93	12	0	0	0	0
6007	15	579	226	181	82	0	0	0	0	0
6139	15	407	152	100	48	5	0	0	0	0
6290	15	371	144	89	42	4	0	0	0	0
6405	15	411	175	49	20	0	0	0	0	0
29M	16	0	0	0	0	0	0	0	0	0
4592	16	74	0	0	0	0	0	0	0	0
4623	16	0	0	0	0	0	0	0	0	0
4705	16	508	0	0	0	0	0	0	0	0
4889	16	290	0	0	0	0	0	0	0	0
2383	16	105	0	0	0	0	0	0	0	0
2467	16	0	0	0	0	0	0	0	0	0
2501	16	14	0	0	0	0	0	0	0	0
6379	16	0	0	0	0	0	0	0	0	0
6409	16	0	0	0	0	0	0	0	0	0
6646	16	0	0	0	0	0	0	0	0	0
6753	16	0	0	0	0	0	0	0	0	0
1027	16	0	0	0	0	0	0	0	0	0
1053	16	0	0	0	0	0	0	0	0	0
1064	16	0	0	0	0	0	0	0	0	0
		71722	**28155**	**20153**	**9426**	**285**	**649**	**2305**	**783**	**510**

Performance of FPT Programme since Inception

Duration	A.I.	Pregnancies	CR%	Calvings	Females born	Daughters recorded	Av. AFC (Mo.)	Av. Milk Yield (kg./days)	Daughters available for recording
2001-02	493	184	37.3	-	-	3	56.1	8.1	-
2002-03	1908	723	37.9	229	135	20	49.7	8.0	-
2003-04	1858	629	33.9	472	245	26	51.1	8.0	-
2004-05	2435	726	29.8	466	215	14	46.1	8.0	-
2005-06	2822	967	34.3	699	333	55	49.7	7.9	-
2006-07	3313	1178	35.6	755	357	50	48.0	8.4	-
2007-08	4015	1438	35.8	870	368	82	47.9	8.3	-
2008-09	4147	1622	39.1	1149	491	83	49.2	8.1	8
2009-10	5415	1878	34.7	1140	538	125	46.9	8.2	62
2010-11	6846	2289	33.4	1274	603	52	42.0	8.1	129
2011-12	7298	2814	38.6	1800	853	-	-	-	337
2012-13	8517	3463	40.7	2497	1155	-	-	-	420
2013-14	8014	3380	42.2	2831	1303	-	-	-	840
2014-15	8316	3810	45.8	2958	1447	-	-	-	648
2015-16	6325	3054	48.3	3013	1383	-	-	-	285
Overall	**71722**	**28155**		**20153**	**9426**	**510**	**47.7**	**8.1**	**2729**

A.I., Conception, Calvings and Daughters Retained –10th Set

Bull No.	1693	2045	2062	2073	2074	2083	2084	2990	3103	3631	5396	**Total**
AI	52	1431	1190	1022	945	497	10	50	101	70	28	5396
Pregnancies	19	555	481	388	347	195	3	20	47	28	11	2094
Daughter Born	6	187	162	129	111	66	1	5	12	8	3	690
Daughters Ear tagged	0	49	39	25	19	16	0	1	1	1	0	151
Daughter Calved	0	47	38	24	17	16	0	1	1	1	0	145
Complete Recording	0	42	33	23	16	15	0	1	1	1		132
Daughter Available	0	7	6	2	3	1	0	0	0	0	0	19

A.I., Conception, Calvings and Daughters Retained –11th Set

Bull No.	2133	2148	2154	3226	3255	3267	3591	5496	5516	HAU12	ND6	**Total**
AI	3263	2905	2558	76	220	53	46	45	35	217	60	9478
Pregnancies	1202	1068	975	32	104	37	17	18	14	91	21	3579
Daughter Born	379	338	322	13	32	5	7	5	5	33	8	1147
Daughters Ear tagged	108	110	123	3	17	2	2	0	1	5	5	376
Daughter Calved	92	92	85	2	9	2	2	0	1	3	2	290
Complete Recording	44	58	50	1	5	1	1	0	0	3	1	164
Daughter Available	64	52	73	2	12	1	1	0	1	2	4	212

A.I., Conception, Calvings and Daughters Retained –12th Set

Bull No.	2176	2177	2185	3598	HAU183	HAU220	KHURANA	REDHU11	Total
AI	2980	2520	2420	104	80	35	2	71	8212
Pregnancies	1159	956	893	36	29	13	1	23	3110
Daughter Born	429	315	293	13	9	5	0	9	1073
Daughters Ear tagged	184	138	135	4	5	2	0	2	470
Daughter Calved	41	74	52	4	1	0	0	0	172
Complete Recording	6	32	12	3	0	0	0	0	53
Daughter Available	178	106	123	1	5	2	0	2	417

A.I., Conception, Calvings and Daughters Retained –13th Set

Bull No.	2234	2269	2304	3964	4059	5943	Total
AI	5060	3349	6134	131	214	31	14919
Pregnancies	2129	1445	2631	52	85	13	6355
Daughter Born	749	536	985	25	32	5	2332
Daughters Ear tagged	482	237	573	25	30	1	1348
Daughter Calved	2	7	6	0	0	0	15
Complete Recording	0	0	0	0	0	0	0
Daughter Available	482	237	573	25	30	1	1348

A.I., Conception, Calvings and Daughters Retained –14th Set

Bull No.	2357	2369	4093	4100	4196	4439	6014	6044	6136	Total
AI	1640	5454	253	110	143	214	146	166	202	8328
Pregnancies	701	2323	109	48	60	87	63	70	89	3550
Daughter Born	262	973	42	24	50	35	31	33	42	1492
Daughters Ear tagged	112	293	27	23	11	34	29	22	46	597
Daughter Calved	0	0	0	0	0	0	0	0	0	0
Complete Recording	0	0	0	0	0	0	0	0	0	0
Daughter Available	112	293	27	23	11	34	29	22	46	597

A.I., Conception, Calvings and Daughters Retained –15th Set

Bull No.	2371	2412	2417	2429	2459	4324	4328	4354	4363	4403	4438	6007	6139	6290	6405	Total
AI	854	820	1605	991	917	1121	701	1069	588	624	564	579	407	371	411	11622
Pregnancies	378	342	415	304	383	505	314	461	257	272	257	226	152	144	175	4585
Daughter Born	58	47	33	32	130	135	123	97	97	94	93	82	48	42	20	1131
Daughters Ear tagged	6	2	5	0	5	12	14	44	9	18	12	0	5	4	0	136
Daughter Calved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Complete Recording	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daughter Available	6	2	5	0	5	12	14	44	9	18	12	0	5	4	0	136

A.I., Conception, Calvings and Daughters Retained –16th Set

Bull No.	1027	1053	1064	2383	2467	2501	4592	4623	4705	4889	6379	6409	6646	6753	29M	Total
AI	0	0	0	105	0	14	74	0	508	290	0	0	0	0	0	991
Pregnancies																
Daughter Born																
Daughters Ear tagged																
Daughter Calved																
Complete Recording																
Daughter Available																

Set-wise AI, Conception and daughters retained

Set no.	No. of Bulls used	AI	Preg.	Calving		Daughters Retained			Daughters Recorded	Av. AFC (Mo.)	Av. Milk Yield (kg)	Daughters to be recorded
				Total	Female	Up to 1Year	Up to 2 Year	3 Year & above				
6th	11	2323	943	669	300	0	0	24	24	52.0	7.9	0
7th	9	1755	651	436	206	0	0	20	20	49.4	8.0	0
8th	17	3542	1318	982	461	0	0	34	34	50.3	8.1	0
9th	15	5156	1970	1331	594	0	0	83	83	47.6	8.2	0
10th	11	5396	2094	1542	690	0	0	151	132	48.1	8.3	19
11th	12	9478	3579	2326	1147	0	0	376	164	47.5	8.1	212
12th	8	8212	3110	2280	1073	0	0	470	53	43.1	8.2	417
13th	6	14919	6355	5048	2332	54	180	1114	0	0	0	1348
14th	9	8328	3550	3077	1492	98	466	33	0	0	0	597
15th	15	11622	4585	2462	1131	133	3	0	0	0	0	136
16th	15	991										
Total	**97**	71722	28155	20153	9426	285	649	2305	510	47.7	8.1	2729

Project Co-ordinator's observations on Field Unit performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Expenditure as per AUC		Balance
Total	ICAR Share		ICAR Share	State Share	
61.00	45.75	45.75	Revised AUC required		

Overall 3239 females were registered in the field. Total 6325 AI's were performed in the field using all 15 bulls of 15th set. 3054 buffalos conceived and 3013 calving took place during the period out of which 1383 were female. At various centres live female progenies of different age groups viz. 0 to $\leq$ 6 months, > 6 to $\leq$ 12 months, > 1 to $\leq$ 3 year and > 3 years were 63, 222, 1488 and 1468 heads, respectively. Overall 71722 AI's were performed resulting in 28155 progenies with the conception rate of 39.26 percent. 20153 calving were recorded out of which 9426 were female. 193 daughters calved during the year and 146 daughter recorded in 2015-16. AFC in the field reduced from 56.1 month (2002-03) to 42.0 months (2015-16). 2729 daughters are still available for recording.

Recommendations:

- Care should be taken to use all set bulls simultaneously and in equal numbers for AI at the field.
- Follow up for the AI should be continued to record more no of daughter per bull.
- Complete milk recording of daughters of bull used for test mating from set 1st to 12th be send to coordinating unit for comprehensive analysis.

FIELD UNIT: NDRI, KARNAL

Title of the project: Progeny testing of bulls under field conditions (FPT)
Principal Investigator: Dr Avtar Singh, Principal Scientist

Research Achievements : A total of 3905 AI were performed in Murrah Buffaloes under field conditions during 2015-16 and as a result 50.64 % conception rate was obtained. The highest conception rate was observed in the month of August (54.28 %) and the lowest was in the month of April (48.72%). Across the villages, the highest conception rate was observed in Rindal (53.20%) and lowest was observed in the village Sheikhpura (47.77%). A total of 1648 (880 male and 768 female) Murrah buffalo calves were born in the farmers' herds and performance data on 133 daughters have been recorded for evaluation of bulls under field conditions. The total herd strength of registered females and the breedable females at different centers was 5965 and 4992 respectively. As many as 18 breeding bulls belonging to the 14th & 15th set were used for AI during the year.

F 1. Herd Strength of Registered females under field unit as on 31-03- 2016

Name of Centre	OB	Addition	Deduction		
		New Reg. (Birth/ Purchase)	Sold	Death	CB
Darar	1672	203	95	29	1751
Kheriman Singh	1579	170	135	15	1599
Rindal	1153	80	176	12	1045
Sheikhpura	1604	183	192	25	1570
Total	6008	636	598	81	5965

F2. Status of Breedable females under field unit as on 31-03- 2016

Name of Village	Heifers >3 years		Buffalo (NP)		Buffalo Pregnant	
	Total	Pregnant	In milk	Dry	In milk	Dry
Darar	268	125	392	120	193	81
Kheriman Singh	308	225	308	137	133	76
Rindal	228	163	209	65	217	83
Sheikhpura *	427	285	239	97	396	217
Total	1231	798	1148	419	939	457

*Includes Manglora

F 3. Monthly AI under Field Unit during 01-04-2015 to 31-03-2016

Month	Centre / Village						
	Darar	**Kheriman Singh & Janesaron**	**Rindal**	**Sheikhpura**	**Manglora**	**Ranwar**	**Total**
April 15	72	39	65	45	10	5	236
May	71	44	70	47	10	3	245
June	66	52	66	50	12	7	253
July	58	55	84	45	15	10	267
Aug.	76	79	86	48	16	10	315
Sept.	88	110	85	60	10	8	361
Oct.	81	121	80	60	8	10	360
Nov.	84	98	80	61	10	3	336
Dec.	106	110	117	52	10	5	400
Jan. 16	108	85	94	60	18	4	369
Feb.	102	60	101	98	27	17	405
March.	95	84	98	60	11	10	358
Total	1007	937	1026	686	157	92	3905

F 4 Bullwise AI at Different Field Unit Centers during the Period 1-4-2015 to 31-03-2016

Bull No	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan	Feb	March	Total
2371						41	40		15	80			176
2429					71	12							83
2459								50					50
4324	7			58	20			70	24		168	200	547
4328		7	109	101	58	1	129						405
4354	203	178	43	38	36		30	19					547
4363					31		24	17	78	14	7	108	279
4403						73							73
4438	26		32			23	98	75	34			10	298
6007					25	34	39	31	8				137
6136				70	15								85
6139						99		74	169				342
6200										74			74
6290										82			82
6405										11	53		64
2412		60	69						72	108	81		390
2417					59	78					96	40	273
Total	**236**	**245**	**253**	**267**	**315**	**361**	**360**	**336**	**400**	**369**	**405**	**385**	**3905**

F 5: Month – wise Conception at Different Field Units during the period 1/4/15 to 31/03/16

Month	Village / Centre					
	Darar	Kherimann Singh & Janesron	Rindal	Sheikhpura	Total	CR %
April 15	39	16	34	26	115	48.72
May	37	22	35	29	123	50.20
June	35	27	32	32	126	49.80
July	29	27	50	30	136	50.93
Aug.	35	41	52	43	171	54.28
Sept.	43	56	49	34	182	50.41

Oct.	39	60	39	40	178	49.44
Nov.	42	56	40	35	173	50.48
Dec	49	60	59	32	200	50.00
Total	348	365	390	301	**1404**	
AI Till Dec	702	708	733	630	**2773**	
CR %	**49.57%**	**51.55%**	**53.20%**	**47.77%**	**50.64%**	

F 6: Monthwise Calvings at Different Field Unit Centers During the Period 01-04-2015 to 31-3-2016

Month	**Darar**		**Rindal & Nagla**		**Kherimann Singh & Janesaron**		**Sheikhpura**		**Manglora**		**Rawar**		**Total**	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Apr 15	19	18	21	22	26	22	10	11	6	5	5	3	87	81
May	23	16	18	19	21	17	9	10	3	3	2	2	76	67
June	18	15	18	15	20	26	10	9	3	4	3	2	72	71
July	20	14	16	14	21	22	10	12	5	4	4	4	76	70
Aug.	19	16	18	14	26	16	10	9	6	5	4	5	83	65
Sept.	21	14	20	17	27	30	8	7	7	5	3	5	86	78
Oct.	19	14	18	19	27	21	12	9	3	4	5	6	84	73
Nov.	20	14	16	13	25	22	7	8	4	3	3	3	75	63
Dec.	20	15	18	16	19	12	12	9	4	5	3	4	76	61
Jan 16	20	13	15	14	13	13	6	5	5	3	2	3	61	51
Feb	18	11	15	10	8	6	8	7	4	4	2	4	55	42
Mar	17	11	10	11	9	10	6	8	4	3	3	3	49	46
Total	234	171	203	184	242	217	108	104	54	48	39	44	880	768

M = Male: 880 *F = Female: 768* *Total = 1648*

F 7. Bull wise Conception at different Field Unit Centers during 1-4-2015 to 31-03-16

Bull No	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
2371						24	22		7	53
2412		29	32						32	93
2417					35	34				69
2429					45	6				51
2459								36		36
4324	4			29	9			35	16	93
4328		5	54	59	7		64			189
4354	97	89	24	18	20		15	11		274
4363					15		8	10	36	69
4403						43				43
4438	14		16			8	50	36	17	141
6007					32	18	19	10	5	84
6136				30	8					38
6139						49		35	87	171
Total	115	123	126	136	171	182	178	173	200	1404

F 8. Bullwise Calving at Different Field Unit Centers during 1-4-2015 to 31-3-2016

Month		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan	Feb	March	Total
2371	M		20	32	21						33			106
	F		14	32	22						24			92
2412	M												13	13
	F												14	14
2417	M								9	18	11			38
	F								7	16	10			33
4324	M		20	6						19	13	2		60
	F		17	9						12	13	1		52
4328	M						1	18	7		4		2	32
	F						1	19	6		4		2	32
4354	M			18	9					19		53	34	133
	F			15	8					18		41	30	112
4363	M							20	17	20				57
	F							19	12	15				46
4438	M						11	2	39					52
	F						12	0	36					48
6007	M				39	26	3							68
	F				34	25	5							64
6014	M	12												12
	F	10												10
6044	M	30	18	16										64
	F	29	17	15										61
6136	M	44	18											62
	F	43	19											62
6139	M				7	44	37							88
	F				6	30	33							69
6290	M					13	23							36
	F					10	20							30
6405	M						11	44	3					58
	F						7	35	2					44
Total	M	168	143	143	146	148	164	157	138	137	112	97	95	1648

M = Male: 880 F = Female: 768 Total= 1648

F. 9 & 10 Bull wise female progeny at different Field Unit Centers (0-12 months) as on 31/3/16

Bull No	**Darar**	**Kheriman Singh**	**Rindal**	**Sheikhpura**	**Manglora**	**Ranwar**	**Total**
2250						10	10
2371	42	39					81
2417			33				33
3103				3	3		6
3226					2		2
3255				10	30	8	48
4324		52					52
4328		2	30				32
4354	22	13	44				79
4363	27						27

4438		34					34
5414				14	10	11	35
5489				15			15
5516				26	16	9	51
6007	20	5					25
6014		10					10
6044	17	10					27
6136	3	2	41				46
6139		16	36				52
6290	17	13					30
6405	23	21					44
MU-10				8	5	4	17
MU-12				6	2	4	12
TOTAL	171	217	184	82	68	46	768

F. 11. Bull wise Live Female Progeny at different Field Unit s (1-3 yrs) as on 31/3/ 2016

Bull No	Darar	Kheriman Singh & Janeseron	Rindal & Nagla	Sheikhpura	Manglora	Ranwar	Total
851		4	7	20	10	3	44
858			4				4
2234		5					5
2304		20	3				23
2357		12					12
2369	7	9					16
3964		8	20	15	6	4	53
4059		6	10	8	2	2	28
4093	19	18	25	4	1	1	68
4100	47	19	14				80
4439	62	30	7				99
5710				15	5	5	25
5943		7	5	25	14	5	56
6014	89	189	26				304
6044	17	25	9				51
6066		3	3				6
6136	39	107	37	10	5	4	202
Total	280	462	170	97	43	24	1076

F. 12. Bull wise Live Female Progeny at different Field Unit Centers (>3 Years) as on 31/3/2016

Bull No	Darar	Kheriman Singh & Janesron	Rindal & Nagla	Sheikhpura	Manglora	Ranwar	Total
851	15						15
858	18						18
2234	2	5					7
2269	9						9
3226	6	9		4			19
3252	6						6
3255		17		15	5	5	42
3267	2	19					21
3591	9	3					12
3964	2	8					10

4059	7						7
5414		1		8	1		10
5489	9	7					16
5496	9		4				13
5516	6	5	5	40	15	5	76
5604	1						1
5710	5		5				10
5720	5		50				55
5943		6	2				8
6044	5						5
6059		7					7
6136	9						9
H-12		11					11
MU-8	6						6
MU-10				15	7	2	24
MU-12				12	4	4	20
ND-6	4						4
R-10			3				3
R-11			2				2
Total	135	98	71	94	32	16	446

F 13. Bull wise daughters calved at different field unit centers during 2015-16

Bull No	Darar	Kheriman Singh & Janesaron	Rindal & Nagla	Sheikhpura	Manglora	Ranwar	Total
851	1						1
1693			4				4
2073	7						7
2083			3				3
2250				6	2		8
2990			2				2
3103			3	8	8		19
3226		2					2
3255			5				5
3591			2				2
3631			4				4
3964		3					3
4059		1					1
5197	3						3
5218			1				1
5396	2						2
5414			3	22	4	4	33
5489	2	9	10				21
5496	1	8	5				14
5516	1	1	6	27	4	4	43
5604	1						1
5710	2	4					6
5720	3	10					13
5943	2						2
12 HAU			4				4
ND-1			1				1
ND-6			1				1
ND-8	1		2				3
Total	**26**	**38**	**56**	**63**	**18**	**8**	**209**

F. 14. Bull wise daughters recorded at different field units during 2015-16

Bull No	Darar	Kheriman Singh & Janesaron	Rindal & Nagla	Sheikhpura	Manglora	Ranwar	Total
1693			3				3
1903			1				1
2074			1				1
2083			1				1
2133		1					1
2154		4					4
3103			1				1
3226	2	2	1		2		7
3255	1	4	2	5	3	3	18
3267	1	3	2				6
3591	4	3	1				8
3631			2				2
4865			1				1
5414	2		2	8	4	4	20
5489	2	3	5	6	4	2	22
5496	2	3	3				8
5516	1	3	3				7
MU-10				5	3	2	10
MU-12	2	2					4
MU-6	1	1					2
MU-8	3	1					4
ND-1			1				1
ND-8			1				1
Total	21	30	31	24	16	11	133

F 15.Bull-wise AI, conception, calving and daughters retained till completion of milk recording as on 31/03/2016

S.No.	Set No	Bull No.	A.I.	Conception	Calving		Daughters Retained up to				Complete Recording
					Total	Female	1 Year	2 Year	3 Year	Calving	
1	10	ND-1	207	100	62	34	4	-	5	19	25
2	10	ND-2	105	50	36	15	3	-	4	7	7
3	10	ND-6	305	116	104	43	10	24	9	1	-
4	10	ND-8	217	94	92	48	-	30	17	3	11
5	11	H-10	190	100	88	41	17	6	6	-	10
6	12	R-10	34	19	11	7	6	5	-	-	-
7	12	R-11	36	-	8	6	10	4	-	-	-
8	11	H-12	482	230	192	95	11	39	5	4	10
9	10	507	187	86	45	23	-	-	11	4	10
10	13	405	-	3	2	-	-	-	-	-	-
11	13	851	301	134	139	69	33	-	-44	1	-
12	13	858	223	122	90	37	-	-	-4	-	-
13	7	1419	241	86	40	25	-	-	-	10	10
14	8	1492	146	46	17	8	-	-	-	4	4
15	8	1509	37	20	12	6	-	-	3	5	3
17	9	1575	291	105	58	29	-	-	14	20	18
18	10	1693	215	98	59	29	-	-	12	21	16
19	7	1727	103	40	29	5	-	-	-	6	6
20	7	1746	112	57	48	19	-	-	6	9	9
21	7	1749	63	39	28	12	-	-	2	5	5
22	7	1796	95	53	24	10	-	-	-	4	4
23	6	1836	28	15	6	3	-	-	-		
24	8	1867	27	15	5	2	-	-	-	1	1

25	8	1868	46	13	8	4	-	-	6	4	4
26	8	1875	101	38	27	16	-	-	5	4	7
27	8	1893	224	127	55	25	-	2	8	8	6
28	9	1903	82	34	17	9	-	-	7	3	5
29	9	1913	127	35	25	11	-	-	8	3	6
30	9	1940	101	50	37	23	-	-	17	12	11
31	9	1964	127	66	65	39	-	-	14	14	14
32	9	1994	57	24	19	11	-	-	3	3	3
33	10	2045	221	81	52	19	2	-	21	2	4
34	10	2062	82	34	24	9	-	-	4	2	2
35	10	2073	310	132	128	57	-	-	68	42	24
36	10	2074	185	68	40	21	-	5	17	8	8
37	10	2083	184	74	36	13	-	-	7	3	5
38	7	2121	62	29	18	10	-	-	-	-	-
39	7	2133	282	171	94	49	-	3	26	13	14
40	11	2154	90	49	38	21	-	-	7	2	4
41	7	2184	384	178	109	46	-	-	42	19	26
42	13	2234	74	40	28	12	-	-	-	-	-
43	8	2250	217	99	79	34	-	-	17	18	6
44	13	2269	139	83	142	62	11	-	-	-	-
45	13	2304	183	85	62	29	22	-	23	-	-
46	8	2308	118	58	38	23	-	-	2	5	7
47	7	2331	270	92	70	32	-	-		12	10
48	14	2357	72		38	16			12		
49	7	2363	216	85	52	26	-	-	1	8	6
50	14	2369	108	46	59	29			16		
51	14	2371	640	221	198	92					
52	14	2412	469	131	27	14					
53	14	2417	435	69	71	33					
54	8	2422	163	63	38	19	-		-	8	5
55	15	2429	83	51							
56	15	2459	50	36							
57	8	2479	150	42	28	10	-	-	5	7	7
58	8	2522	71	25	8	7	-	-	-	1	1
59	9	2582	394	147	88	47	-	-	4	20	16
60	9	2592	301	124	86	38	-	-	6	19	25
61	9	2720	342	154	114	63	-	-	8	39	10
62	9	2910	202	79	46	25	-	-	-	22	8
63	10	2990	188	102	80	33	-	6	14	14	15
64	10	3103	309	135	94	44	-	-	15	31	11
65	11	3226	553	211	140	60	8	47	18	19	18
66	11	3255	540	270	188	108	-	19	27	17	20
67	11	3267	497	243	164	93	51	29	22	16	7
68	11	3591	540	261	242	103	28	14	28	24	17
69	10	3631	218	101	56	27	5	5	8	16	10
70	13	3964	512	289	208	103	41	11	53	3	-
71	13	4059	266	108	87	42	6	9	28	1	-
72	14	4093	648	300	217	107	25		68		
73	14	4100	417	205	171	87		20	47		
74	15	4324	781	142	112	52					
75	15	4328	559	240	64	32					
76	14	4439	670	355	300	109		7	99		
77	15	4354	807	355	245	112					
78	15	4363	536	107	103	46					
79	15	4403	73	43	100	48					
80	15	4438	399	171							
81	6	4506	282	117	57	30	-	-	6	18	9

82	6	4523	317	117	187	32	-	-	-	12	10
83	6	4619	183	74	37	20	-	-	2	14	14
84	6	4637	156	60	50	15			1	6	6
85	6	4640	190	76	48	14			4	12	8
86	7	4807	82	42	17	14			4	8	7
87	8	4813	255	107	61	29	-	-	9	43	14
88	8	4865	325	109	55	25	-	-	-	12	10
89	7	4915	389	152	63	33	-	-	6	14	14
90	8	5049	120	49	41	17	-	-	2	20	8
91	8	5054	435	200	107	45	-	-	13	21	20
92	9	5112	706	292	181	82			12	56	30
93	9	5197	176	89	72	42	-	-	11	33	11
94	9	5218	765	370	246	137	-	-	8	42	28
95	9	5312	64	23	16	6	-	-	3	1	
96	10	5396	200	93	73	33	10	10	14	26	14
97	11	5414	515	176	173	96	-	21	18	61	35
98	11	5489	1313	598	483	215	29	74	50	33	32
99	11	5496	736	248	301	140	51	42	40	21	11
100	11	5516	966	429	314	162	20	53	36	50	16
101	12	5604	61	18	32	13		-	-	1	-
102	12	5710	746	224	338	170	78	18	43	6	-
103	12	5720	1057	267	417	212	161	82	18	13	-
104	13	5943	563	244	193	84		11	57	2	-
105	15	6007	397	227	132	64					
106	14	6014	1598	505	598	293	-	10	304	-	-
107	14	6044	791	344	427	200	-	-	51	-	-
108	14	6066	67	25	16	10	-	4	6	-	-
109	14	6136	1559	583	732	370	4	8	202	-	-
110	15	6139	742	386	157	69					
111	15	6200	74								
112	15	6290	246	93	66	30					
113	15	6405	406	125	102	44					
Total			36022	14456	11622	5511	646	598	1622	1091	785

F 16. Performance of FPT Programme on Farmer's Buffaloes NDRI unit as on 31.03.2016

Duration	AI	Pregnancies	CR%	Calvings	Females Born	Daughters Recorded	Av. AFC (months)	Av. Milk Yield (kg/day)	Daughters Available for Future Recording
2004-05	2223	993	41.97	710	333	34	41.4	7.55	
2005-06	2224	994	42.97	875	400	45	45.4	6.11	
2006-07	2193	976	33.5	918	440	65	46.7	6.87	
2007-08	2594	1212	46.72	1140	517	109	46.8	7.29	
2008-09	2529	1190	47.05	1086	503	138	45.3	7.36	
2009-10	2739	1377	50.27	1159	569	211	45.3	7.08	
2010-11	2747	1399	50.92	1225	560	183	44.2	7.68	53
2011-12	2995	1600	53.42	1860	905	133	45.2	7.82	137
2012-13	2905	1422	48.95	1159	569				246
2013-14	4419	2242	51.27	1225	560				317
2014-15	3941	2033	51.58	1860	905				342
2015-16	3905	1994	51.06	192	88				64

[#] Calving reported up to March 2016 against AI done till May 2015

ACTION PLAN FOR 2016 – 17

- In order to bring more number of animals under the AI coverage and to retain most of the female progeny up to the completion of their first lactation, more farms in the vicinity of project area having relatively large herd size (5-15 breedable buffaloes) will be identified and included in the project.
- The performance recording in terms of monthly recording of milk yield of the daughters and their dams shall continue. Finally the data generated on AI's, conception rate, milk production and performance traits will be supplied to coordinating unit for analysis by employing suitable statistical tools. The work of identification of progeny born in the field by ear tagging will continue and the progenies born will be properly identified.
- The farmers whose herds have been included in the project will be motivated through the provision of various incentives like offering of various technical inputs, veterinary first aid, mineral mixture, deworming etc.
- The calf rallies shall be organized to sensitize the farmers for active participation in the performance recording and progeny testing programme. Necessary provision of funds for above activities should be made.
- The elite buffaloes will be identified and mated with proven bulls for production of young bulls. There is need to develop modalities for procuring such superior young male calves for future breeding and providing necessary funds for procuring males.
- During the year 2016-17, a series of interactive meetings/ discussions will be held with the buffalo farmers to impress upon them the need for genetic improvement of buffaloes and the indispensability of AI for this purpose so that more farmers are inclined to accept AI in general for buffalo breeding.

Project Co-ordinator's observations on field performance

Financial Statement for the year 2015-16 (Rs in Lakhs)

Sanctioned as per R E		Released ICAR Share as per R E	Expenditure as per AUC		Balance
Total	ICAR Share		ICAR Share	State Share	
15.60	15.60	15.60	11.87169	--	3.72831

A total of 3905 AI were performed in Murrah Buffaloes under field conditions during 2015-16 and as a result 50.64 % conception rate was obtained. The highest conception rate was observed in the month of August (54.28 %) and the lowest was in the month of April (48.72%). Across the villages, the highest conception rate was observed in Rindal (53.20%) and lowest was observed in the village Sheikhpura (47.77%). A total of 1648 (880 male and 768 female) Murrah buffalo calves were born in the farmers' herd and performance data on 133 daughters have been recorded for evaluation of bulls under field conditions. The total herd strength of registered females and the breedable females at different centers was 5965 and 4992 respectively. As many as 18 breeding bulls belonging to the 14^{th} & 15^{th} set were used for AI during the year.

Recommendations: Effort should be made to use all bulls simultaneously and in equal numbers for AI from each bull of the set for obtaining equal progenies.
Complete milk recording of daughters of bull used for test mating from set 1^{st} to 12^{th} be send to coordinating unit for comprehensive analysis.

BULL CERTIFICATION LABORATORY, CIRB HISAR

Name of Project : Network project on Buffalo Improvement
Name of the centre : Bull Certification laboratory, CIRB, Hisar
Scheme code : 183/97, ASR dated 29.3.2001
PI : Dr S Khanna

Technical Programme : Screening of buffalo breeding bulls for the following infectious diseases:

- Tuberculosis
- Johnin Disease
- Brucellosis
- IBRT
- Leptospirosis
- Campylobacteriosis
- Trichomoniasis

The bulls are tested for the above mentioned diseases prior to entry into breeding programme.

Targets : Bull certification Laboratory was established Network Project on Buffaloes with the objective of health evaluation of male germ plasm and prevent the transmission of pathogenic transmission of microorganism through frozen semen and artificial insemination. Screening of XIII, XIV set of breeding bulls and future breeding bulls from XV set for the infectious Diseases viz. Tuberculosis, Johnin Disease, Brucellosis, IBRT, Leptospirosis, Campylobacteriosis and Trichomoniasis as per protocols as under:

Bulls to be tested for	Test applied
Tuberculosis	Intradermal tuberculin, delayed hypersensitivity
Johnin Disease	Intradermal johnin, delayed hypersensitivity
Brucellosis	RBPT, Dot ELISA
IBRT	Dot ELISA
Leptospirosis	Dot ELISA
Campylobacteriosis	Microscopy, Agent identification
Trichomoniasis	Microscopy, Agent identification

During the period under report buffalo breeding bulls and future breeding bulls (Murrah), Nili Ravi bulls(Sub Campus Nabha), experimental males reared at CIRB Hisar, Farmer's bulls and bulls spotted for purchase for CIRB Hisar were screened for various diseases as per MSP protocol. Out of 112 animals screened for Tuberculosis and Johnin diseases none was found reactive. None of the 124 males were found positive for brucellosis as tested by RBPT and ELISA.

Semen from nine bulls was also got tested for presence of virus by qPCR and all the samples were found –ve. Prepucial washings and smegma from 12 bulls were found negative for *Campylobacteriosis fetus vuneralis* and *Trichomonas*.

In addition to above, samples from the institute's herd and other centers under Network are also received for testing against above mentioned diseases. Samples of 4 bhadawari bulls were found –ve as tested by qPCR

Project Co-ordinator's observations on Bull Certification Laboratory

- During the period, bulls of Murrah, NiliRavi breed and bulls of farmers were tested for various diseases i.e. Tuberculosis, Johnin Disease, Brucellosis, IBRT, Leptospirosis, Campylobacteriosis and Trichomoniasis.
- In addition, experimental animals from CIRB, bulls spotted for purchase were also tested.

Recommendation:

1. All the animals of different participating herds be tested and evaluated periodically to Ensure disease free semen production and availability.
2. The laboratory should also ensure that all the centres are producing disease free frozen semen as per MSP

SUMMARY OF RESEARCH ACHIEVEMENTS AND PROGRESS OF THE PROJECT

Selection and use of Breeding Bulls for Murrah breed

From July 93 till date test mating from 15 sets of bulls have been completed and test mating of 16th set is continue from January 2016. Brief summary of the duration, the number of bulls, average of the dam's best yield and highest dam's yield in each set is shown below.

Sixteen sets of bulls used under Network Project on Buffalo since July 1993.

Set No.	Duration	Centrewise No. of bulls						Total Bull	Av. of 305 day or less dams best yield (kg)	Highest dam 305 day yield (kg)	305 day or less herd average (kg)
		CIRB	NDRI	GADVASU	LUVAS	NDUAT	IVRI				
1.	July, 1993 to Dec., 1994	2	9	0				11	3050	4114	1820/501
2.	Jan., 1995 to June, 1996	4	5	6				15	3002	3898	1920/487
3.	July, 1996 to Dec., 1997	8	5	2				15	2876	3275	2053/476
4.	Jan., 1998 to June, 1999	5	4	5				14	2999	3401	1973/457
5.	July, 1999 to Dec., 2000	6	5	4				15	3120	3898	1943/551
6.	Jan., 2001 to June 2002	5	5	4	2			16	3055	3898	1972/562
7	July 2002 to Dec., 2003	5	2	4	1			12	2928	3544	2017/505
8.	Jan., 2004 to June 2005	5	5	4	2			16	2928	3690	2056/511
9.	July 2005 to Dec. 2006	4	5	5	1			15	2923	3336	2008/458
10.	Jan., 2007 to June 2008	3	1	5	1	3	1	14	2829	3369	2130/509
11.	July 2008 to Dec., 2009	4	4	3	1	1	1*	14	2792	3051	2046/483
12.	Jan., 2010 to June 2011	1	3	3	1		3**	11	3362	5192	2115/384
13.	July 2011 to Dec., 2012	2	1	3			2	8	3205	3805	2199/380
14.	Jan., 2013 to June 2014	4	4	3			1	12	3451	4636	2356/288
15.	July, 2014 to Dec., 2015	6	5	4				15	3350	4636	2361/335
16.	Jan., 2016 to June 2017	5	4	3	3			15	3762	4636	2349/280

* bulls from Deedwadi ** Two from Redhu Farm

List of bulls selected for 16th set (Murrah Breed)

Test mating of these bulls continue from 1st January 2016 at Murrah centers and field units

Sr. No.	Bull No.	Location	Date of Birth	Dam No.	Sire No./ Set No	Dam's best lact. 305 day or less yield (kg)	Health status (TB/JD/B/ IBR/Trich/ Lept) /Test date
1.	29 M	CIRB	16-10-05	4 P	P274	4600	-ve /12-06-14
2.	4592	CIRB	28-06-13	4353 P	Khali	3528	-ve /07-10-15
3.	4623	CIRB	01-09-13	4261 P	1875 PT-VIII	3506	-ve /June-16
4.	4705	CIRB	22-07-12	83 P	B 902	3990	-ve /07-10-15
5.	4889	CIRB	23-10-04	S-802	FT 245	4120	-ve /07-10-15
6.	2383	GADVASU	13-10-10	P 2489	MU 3267 PT-XI	4636	-ve /04-06-15
7.	2467	GADVASU	01-04-12	P 2279	R 10 XII	3574	-ve /04-06-15
8.	2501	GADVASU	10-10-12	P 1794	1875 PT-VIII	3053	-ve /04-06-15
9.	6379	NDRI	17-10-11	402 P	4915 PT-VII	3505	-ve /10-02-15
10	6409	NDRI	09-01-12	490 P	4371 PT-V	4090	-ve /10-02-15
11	6646	NDRI	17-02-13	6627 P	NK	3533	-ve /10-02-15
12	6753	NDRI	13-07-13	470 P	858 XIII	3389	-ve /10-02-15
13	1027	LUVAS	28-09-13	603	PC 461	3763	-ve /11-12-15
14	1053	LUVAS	17-12-13	683	29 M	3559	-ve /11-12-15
15	1064	LUVAS	19-02-14	613	BI 330	3579	-ve /29-01-16

Note: From each bull 10,000 semen doses are to be frozen.

Health Evaluation and Semen Quality Testing

During the period under report, apparently healthy buffalo breeding bulls of different centres (CIRB Hisar, NDRI Karnal, GADVASU Ludhiana and LUVAS Hisar) all of Murrah breed and proposed for XVI set for semen collection under Network Project on Buffalo were screened for TB,JD and Brucellasis etc.

Progeny Test Evaluation of Bulls

Data of 331 daughters born from the 11th set of bulls which completed 1st lactation was compiled and progeny test evaluated. Bull no. 3267 and 3591 from CIRB, Hisar ranked 1st and 2nd with sire index 2177.81 kg and 2176.56 kg respectively followed by bull no 2133 from GADVASU. Ludhiana having sire index 2175.40 kg with % superiority over least square mean (LSM) of 0.20, 0.14 and 0.09. The pedigree detail and sire index of the 11th set are presented below.

Progeny Test evaluation of 11th set bulls (Murrah breed – July 2008 to Dec., 2009)

SN	Bull no.	Location	Date of birth	Dam No.	Sire No.	Dams best lactation 305 day or less yield (kg)	Sire Index	No of daughter recorded per bull	SE of LSM	% Superiority	Rank
1.	3267	CIRB	27-09-04	2263	1419	2489	2177.81	29	35.90	0.20	I
2.	3591	CIRB	29-05-06 (P)	3590		2598	2176.56	29	35.66	0.14	II
3.	2133	GADVASU	09-11-05	2041	1354	2844	2175.40	36	36.00	0.09	III
4.	12	CCSHAU	29-05-05	1180	93	2858	2175.13	20	35.81	0.07	IV
5.	5489	NDRI	25-08-04	408		3031	2174.76	21	35.79	0.06	V
6.	2154	GADVASU	30-05-06	2360	1964	2593	2174.60	39	35.93	0.05	VI
7.	333 (Golu)	DIDWADI				22.0*	2174.31	2	36.10	0.04	VII
8.	3226	CIRB	20-08-04	587/4.9	829	2655	2174.25	24	35.45	0.03	VIII
9.	3255	CIRB	16-09-04	2074	1796	3051	2172.50	33	35.41	-0.05	IX
10.	5496	NDRI	07-09-04	412		2780	2172.44	16	35.82	-0.05	X
11.	5414	NDRI	21-01-04	4045	2133	2911	2172.33	9	35.95	-0.06	XI
12.	ND6	NDUAT	08-03-05	137	-	2702	2171.87	1	36.31	-0.08	XII
13.	2148	GADVASU	01-03-06	1710	4865	3008	2169.46	48	35.85	-0.19	XIII
14.	5516	NDRI	07-10-04	5110	4915	2765	2168.95	24	36.01	-0.21	XIV
	Mean						2173.545	331	33.73		

On the basis of 11th set evaluation three top ranking bulls are selected for nominated mating from 1st January 2016 to 31st July 2017 are as under:

SN	Bull no.	Location	Date of birth	Dam No.	Sire No.
1.	3267	CIRB	27-09-04	2263	1419
2.	3591	CIRB	29-05-06 (P)	3590	
3.	2133	GADVASU	09-11-05	2041	1354

Progeny Tested bulls used under Network Project

The top ranking 25 % progeny tested bulls (2 to 3 bulls from each set) used for elite/ nominated matings from set I to set XI as selected from the centres are listed below. The pedigree details, sire index and availability of frozen semen doses from each bull are under.

Centrewise frozen semen doses of progeny tested bulls (Murrah breed)

Bull no.	Set No	Name of centre	Date of Birth	Dam no.	Sire No.	Dam best lact. Yield	Sire index	% superiorty over cotemporary daughter	Semen doses available as on 31.3.2016
392	I	CIRB	06-04-86	238	PQ1	2594	2118	22.80	116
761	II	CIRB	20-11-90	474	366	2878	1967	09.37	2695
93	II	CIRB	03-11-90		PQ1	22.0*	1890	03.96	90
829	II	CIRB	04-07-91	597	766	2626	1876	03.53	4325
1153	III	CIRB	13-08-93	701	896	2540	1957	12.27	2799
1061	III	CIRB	24-09-92	769	896	2846	1913	09.50	2846
1933	VI	CIRB	01-10-97	208	988	2650	1953	06.92	4119
1153	VI	CCS HAU	29-09-96	618	759	2675	2121	13.31	2140
2422	VIII	CIRB	19-08-00	1194	4337	3369	2057	9.40	3835
1693	X	CCS HAU	27-10-03	1050	392	3194	2320.39	1.23**	1648
3267	XI	CIRB	27-09-04	2263	1419	2489	2177.81	0.20	3815
3591	XI	CIRB	29-05-06 P	3590		2598	2176.56	0.14	4185
Total									**32613**
1354	III	GADVASU	12-12-92	762	989	3088	1975	13.11	2072
1506	IV	GADVASU	25-04-95		988	3018	2089	18.81	4998
1451	IV	GADVASU	10-08-94		3567	3401	1945	10.44	3307
1437	IV	GADVASU	04-04-94	797	636	3127	1904	08.11	3946
1796	VII	GADVASU	10-02-00	1386	1506	3170	2092	15.81	4539
1875	VIII	GADVASU	20-08-01	1669	558	2714	2300	24.89	3005
1994	IX	GADVASU	16-06-03	1884	392	2938	2487	11.73	1441
2045	X	GADVASU	24-02-04	1835	3567	3369	2320.29	1.23**	317
2133	XI	GADVASU	09-11-05	2041	1354	2844	2175.40	0.09	1124
Total									**24749**
3108	I	NDRI	29-04-86	2221	368	4114	1953	07.10	1061
3567	I	NDRI	07-09-89	2408	2304	2877	1923	06.20	2178
4393	V	NDRI	10-12-95	2762	1908		2143	22.29	2613
4371	V	NDRI	23-10-95	2984	988	3258	1971	14.90	1218
4506	VI	NDRI	31-10-96	3527	3551	3512	1972	09.29	2280
4915	VII	NDRI	28-10-99	3521	2921	3437	2116	17.26	2263
4813	VIII	NDRI	17-01-99	3818	3966	3016	2101	12.59	989
5258	IX	NDRI	01-08-02	4066	1706	3305	2466	10.52	2003
Total									**14605**
Grand Total									**71967**

* Peak yield ** analyzed by Harvey model VIII

Semen freezing and balance stock for bulls under test

Centre wise test bulls of Murrah breed as on 31-03-2016 at various centres

CIRB			NDRI			GADVASU		
Bull No.	Set No	No of semen doses	Bull No.	Set No	No of semen doses	Bull No.	Set No	No of semen doses
3598	XII	5214	5720	XII	4539	2176	XII	3046
183 (HAU)	XII	5850	5710	XII	3763	2177	XII	5450
R-10	XII	1804	5604	XII	2914	2185	XII	1741
R-11	XII	1078	5943	XIII	3850	2234	XIII	1285
4059	XIII	6136	6014	XIV	5539	2269	XIII	1133
3964	XIII	4627	6044	XIV	4716	2304	XIII	7944
4439	XIV	8457	6136	XIV	7153	2357	XIV	5407
4093	XIV	8671	6007	XV	3638	2369	XIV	6018
4100	XIV	9205	6139	XV	6037	2371	XV	8305
4196	XIV	8310	6290	XV	1968	2412	XV	4105
4324	XV	6495	6405	XV	3125	2417	XV	8805
4354	XV	17508	6379	XVI	660	2429	XV	3804
4438	XV	19215	6409	XVI	3802	2459	XV	3074
4363	XV	15512	6646	XVI	438	2383	XVI	872
4403	XV	11777	6753	XVI	-	2467	XVI	52
4328	XV	17089				2501	XVI	-
29 M	XVI	529						
4592	XVI	1481						
4623	XVI	-						
4705	XVI	4425						
4889	XVI	3713						
1027	XVI	266						
1053	XVI	150						
1064	XVI	-						
Sub Total		157512			52142			61041
Grand Total								270695

Germplasm dissemination for breeding purpose (Murrah breed)

Superior germplasm disseminated from various centers is presented below.

Year	CIRB		GADVASU		NDRI	
	Bulls	Semen	Bulls	Semen	Bulls	Semen
1998-99	32	50	10	6000	15	1740
1999-00	26	100	22	5847	11	1320
2000-01	16	70	33	3449	9	2230
2001-02	18	21648	18	8579	8	5030
2002-03	18	2270	8	3205	9	2655
2003-04	53	3300	17	3977	15	15614
2004-05	15	1534	10	19675	8	4579
2005-06	4	372	15	1763	17	4123
2006-07	18	04	8	2227	9	574
2007-08	5	140	6	1777	5	433

2008-09	2	6375	7	4053	3	1232
2009-10		63974	5	8181		9404
2010-11		59546	5	22383		22405
2011-12		129099	4	53131	16	18129
2012-13	4	80081	2	41276	9	23751
2013-14	6	68635	28	24784	5	62054
2014-15	38	57761	21	13510	9	11966
2015-16	57	41866	37	24529	22	12792
Total	**312**	**536825**	**256**	**248346**	**170**	**200031**

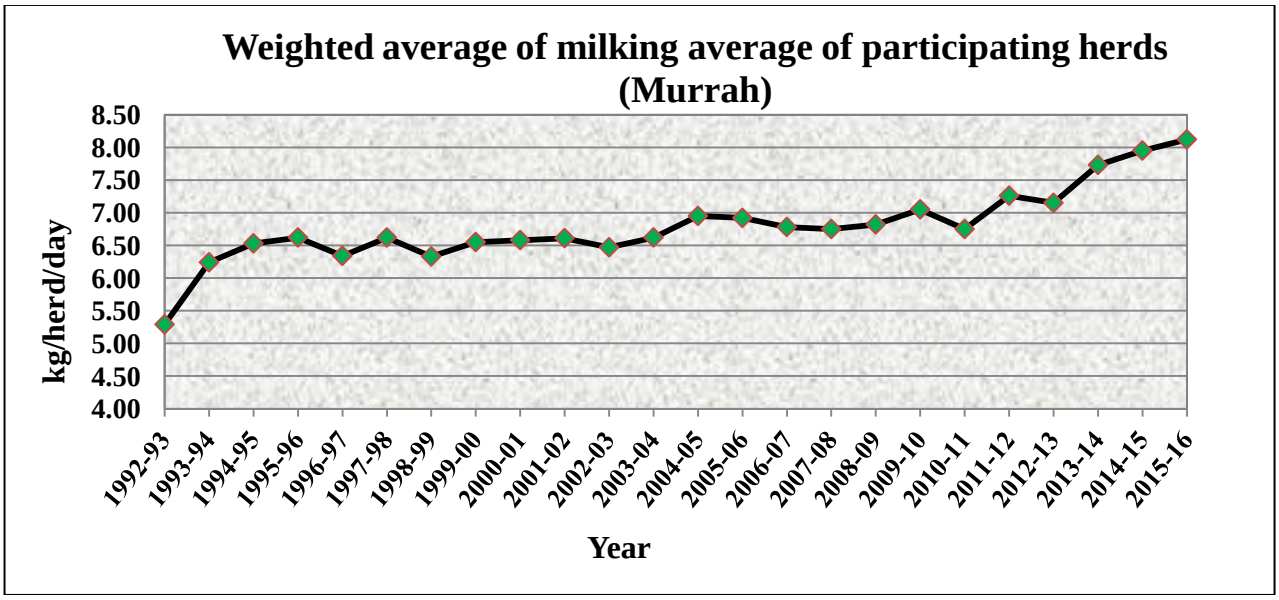
Performance Characteristics

Herd performance with respect to various production and reproduction traits at different participating centers has been compiled and presented as under.

Milking average per buffalo at various participating herds since 1992-93.

Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Weighted average
1992-93	4.80 (165)	5.54 (149)			4.31 (22)	6.3 (65)		5.29 (403)
1993-94	5.65 (153)	6.20 (115)	7.80 (115)	6.3 (42)	4.62 (380	5.8 (62)		6.24 (525)
1994-95	6.09 (181)	6.09 (116)	8.39 (114)	7.2 (49)	3.90 (39)	6.3 (48)		6.53 (547)
1995-96	6.43 (1.53)	6.43 (123)	8.03 (109)	7.3 (54)	3.63 (29)	6.0 (82)		6.62 (550)
1996-97	5.62 (122)	6.17 (112)	7.90 (103)	7.0 (76)	3.63 (29)	5.7 (67)		6.34 (508)
1997-98	6.12 (121)	6.53 (116)	7.40 (119)	6.5 (68)	4.19 (28)	7.2 (58)		6.62 (509)
1998-99	6.77 (133)	6.26 (119)	5.93 (100)	6.2 (71)	5.79 (20)	6.5 (72)		6.33 (515)
1999-00	6.85 (137)	6.26 (109)	6.60 (90)	5.2 (60)	5.77 (23)	7.4 (98)		6.55 (521)
2000-01	6.68 (148)	6.70 (105)	6.65 (104)	6.7 (55)	5.42 (30)	6.5 (84)		6.58 (523)
2001-02	6.59 (147)	7.09 (94)	6.26 (90)	7.47 (48)	5.82 (32)	6.3 (81)		6.61 (492)
2002-03	6.27 (143)	7.22 (109)	6.23 (73)	7.5 (47)	4.94 (30)	5.9 (68)		6.47 (470)
2003-04	6.49 (151)	7.01 (108)	6.36 (80)	7.30 (68)	5.94 (37)	6.2 (57)		6.62 (501)
2004-05	6.39 (154)	7.33 (91)	7.39 (111)	7.70 (66)	5.99 (38)	6.70 (47)		6.95 (509)
2005-06	6.57 (151)	7.36 (74)	7.05 (107)	7.70 (63)	6.14 (46)	6.7 (39)		6.92 (479)
2006-07	6.45 (137)	7.03 (81)	6.70 (100)	7.8 (65)	6.15 (41)	6.8 (48)	6.52 (29)	6.78 (501)
2007-08	6.64 (146)	6.90 (70)	6.80 (104)	7.60 (66)	5.98 (62)		6.92 (22)	6.75 (470)

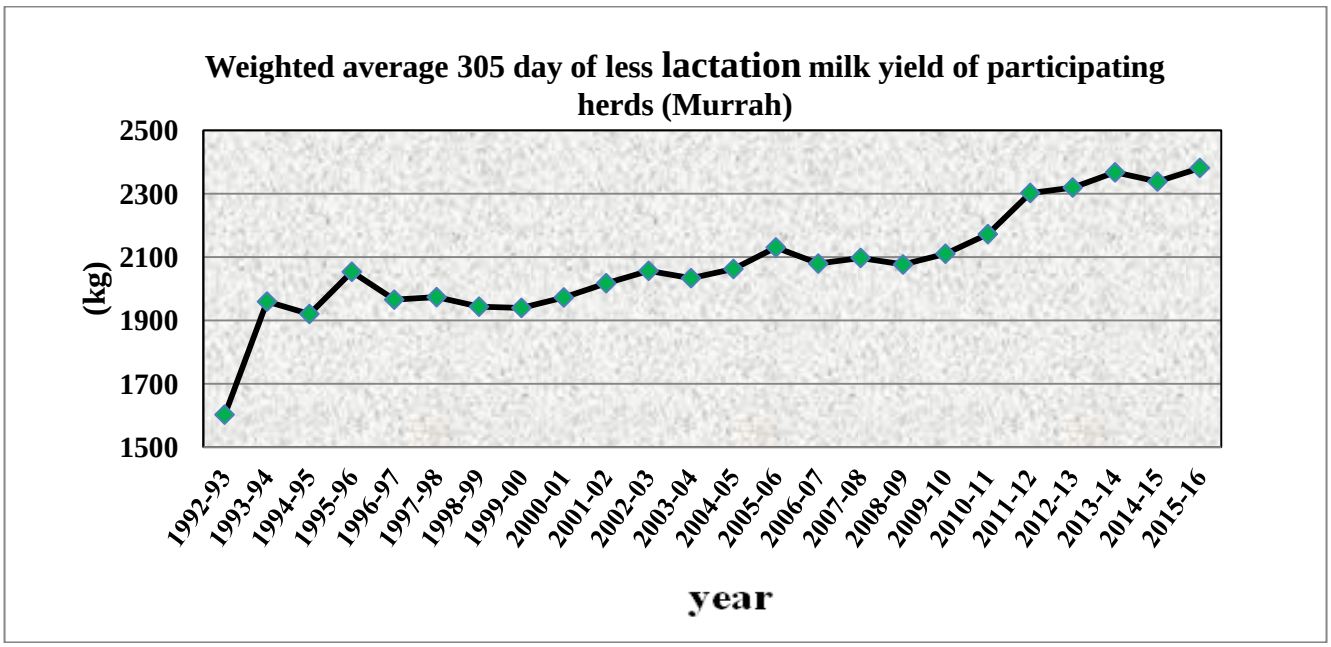
2008-09	6.50 (133)	7.07 (78)	7.09 (64)	7.10 (62)	6.69 (53)	6.4 (59)	6.66 (22)	6.82 (412)
2009-10	7.01 (106)	7.62 (83)	7.32 (91)	6.8 (69)	6.68 (45)		5.39 (27)	7.05 (421)
2010-11	7.45 (109)	7.21 (88)	5.83 (96)	7.3 (64)	5.88 (47)		5.60 (21)	6.75 (425)
2011-12	7.83 (110)	7.56 (88)	6.79 (66)		5.82 (41)	KVASU	Mamnoor	7.26 (305)
2012-13	7.74 (109)	7.74 (78)	7.35 (90)		5.66 (39)	4.82 (13)	4.70 (17)	7.15 (346)
2013-14	8.01 (105)	7.98 (61)	7.80 (101)	9.40 (62)	5.85 (45)	5.54 (19)	5.25 (11)	7.73 (404)
2014-15	8.25 (110)	7.97 (54)	8.05 (115)	8.70 (64)	6.80 (43)	RC ER, Patna	5.90 (22)	7.95 (408)
2015-16	8.04 (114)	8.04 (54)	8.43 (132)	9.90 (72)	6.48 (44)	7.45 (14)	5.81 (32)	8.12 (462)



Average 305 day or less milk yield at various participating herds since 1992 – 93.

Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF/ KVASU	NDUAT/ Mamnoor	Weighted average
1992-93	1508±34 (137)	1730 (138)			1458±48 (34)	1899.1		1602 (309)
1993-94	1686±46 (148)	1948 (144)	2351.8 (137)	1818.8	1537±49 (28)	1746.0		1959 (457)
1994-95	1787±0 (206)	1877 (121)	2270.1 (128)	1912.7	1536±40 (32)	1896.7		1920 (487)
1995-96	1855±42 (147)	2008 (126)	2576.1 (106)	1987.5	1457±51 (27)	1950.4		2053 (476)
1996-97	1775±45 (173)	1948 (125)	2423.1 (105)	1880.8	1629±76 (20)	1714.1		1965 (498)
1997-98	1688±37 (123)	1995 (98)	2191.2 (128)	2103.7	1715±95 (23)	2006.8		1973 (455)

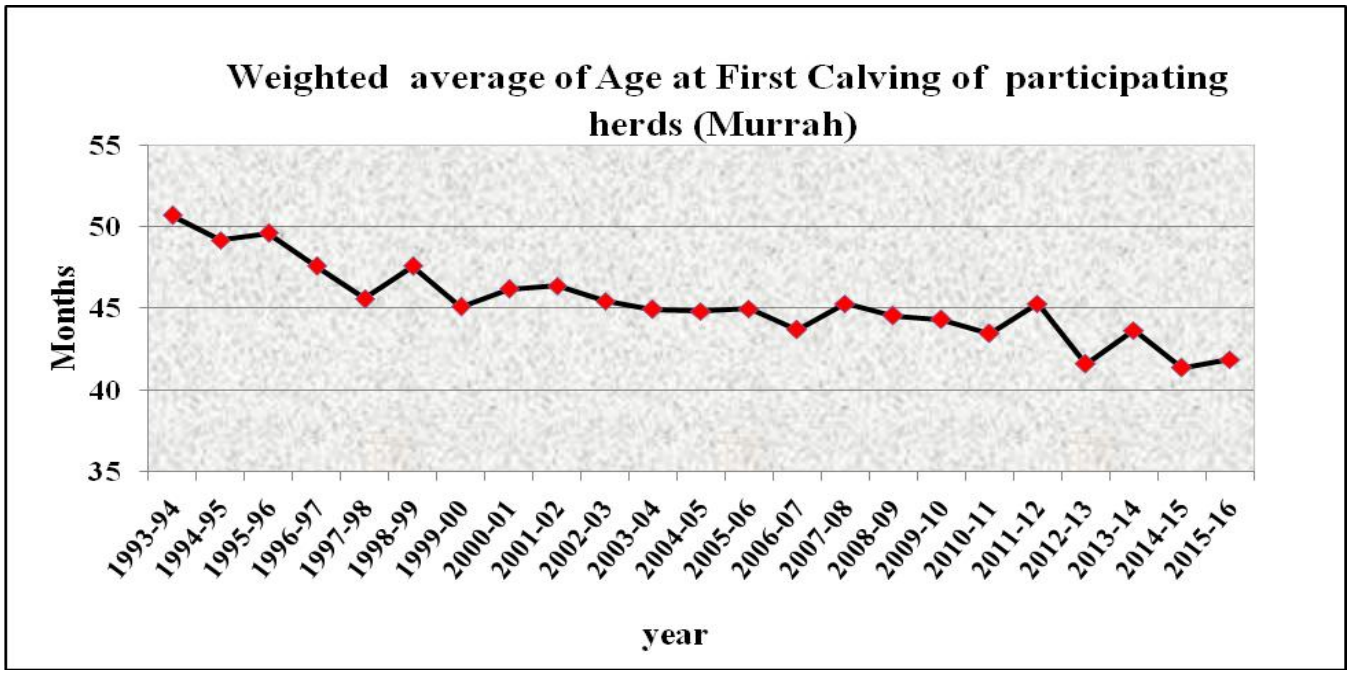
1998-99	1702±33 (153)	2101 (125)	2032.7 (112)	1964.7	1980±97 (22)	2179.7		1943 (551)
1999-00	2042±31 (141)	2041 (114)	1822.4 (102)	1688.7	2026±98 (18)	2134.9		1939 (439)
2000-01	1914±36 (173)	2032 (103)	2019 (126)	2183.1	1898±147 (20)	1875.0		1972 (562)
2001-02	1898±35 (152)	2175 (112)	1963±61 (91)	2119±46 (50)	2102±75 (19)	2000.0 (81)		2017 (505)
2002-03	1902±32 (148)	2144 (105)	2000.6 (81)	2522±13 (46)	2362.5 (55)	1789.1 (76)		2056 (511)
2003-04	1837±31 (148)	2233 (111)	1897 (29)	2162±42 (75)	2103±118 (26)	1881.9 (6)		2033 (395)
2004-05	1886±33 (167)	2270 (106)	2025 (98)	2134±44 (61)	2369±128 (10)	2114 (26)		2062 (494)
2005-06	1921±38 (149)	2327 (78)	2159 (142)	2252±47 (77)	2218±89 (32)	2085 (32)		2130 (509)
2006-07	1882±32 (170)	2235 (91)	2054 (111)	2261±44 (75)	2412±89 (27)	2139 (54)	1941±77 (27)	2079 (555)
2007-08	1891±34 (127)	2176±60 (67)	2094 (127)	2130±44 (80)	2525±109 (28)		1988±83 (24)	2097 (453)
2008-09	1926 (138)	2141±48 (88)	2256 (86)	2041±48 (76)	2209±106 (16)	1822 (57)	2078±89 (22)	2076 (426)
2009-10	1995 (102)	2271±53 (67)	2222 (84)	1858±33 (84)	2570±92 (26)		2153±107 (20)	2110 (383)
2010-11	2247 (113)	2470±68 (81)	2015 (130)	2042±48 (66)	2136±63 (56)		2092±54 (22)	2172 (468)
2011-12	2374 (116)	2306±72 (87)	2192 (67)		2277±83 (49)	KVASU	LRS Mamnoor	2302 (319)
2012-13	2335±46 (110)	2528±55 (75)	2256 (83)		2242±108 (20)	1698±219 (11)	1560 (5)	2319 (304)
2013-14	2291±58 (98)	2509±67 (55)	2431 (82)	2808±43 (65)	2038±62 (47)	1728±158 (17)	1753 (13)	2367 (377)
2014-15	2355±48 (110)	2674±82 (46)	2224 (124)	2584±49 (62)	2136±52 (53)	RC ER Patna	1626 (11)	2338 (406)
2015-16	2336±33 (152)	2640±73 (45)	2523 (118)	2577±57 (78)	2302±65 (51)	1866±37 (18)	1843±31 (44)	2381 (506)



Average Age at first calving at various participating herds

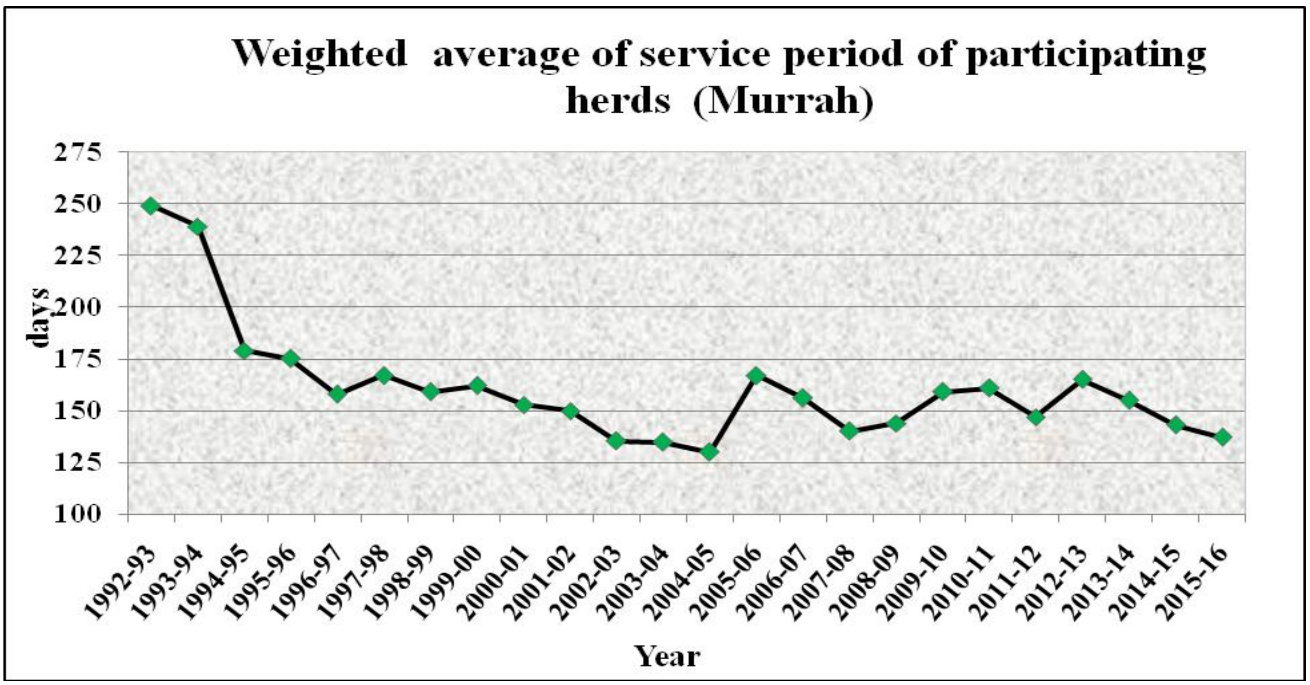
Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Weighted average
1993-94	59.1±1.6 (48)	46.7 (24)	45.5 (44)	51.6	39.4±3.0 (7)	43.0		50.7 (123)
1994-95	55.3±1.3 (48)	47.5 (37)	46.0 (37)	51.3	38.3±1.7 (10)	48.0		49.2 (132)
1995-96	55.3±1.5 (22)	49.4 (43)	46.8 (27)	51.9 (26)	42.1±3.4 (14)	51.0		49.6 (132)
1996-97	47.6±1.6 (23)	49.4 (34)	46.8 (27)	47.3 (44)	42.1±3.4 (4)	51.0		47.6 (132)
1997-98	45.5±0.5 (49)	45.0 (45)	44.8 (34)	48.7 (28)	40.1±3.4 (6)	51.0		45.6 (162)
1998-99	50.0±0.01 (57)	47.0 (34)	46.2 (54)	47.3 (22)	43.4±2.3 (8)	54.0		47.6 (178)
1999-00	46.2±1.0 (54)	42.0 (54)	42.6 (29)	49.4 (15)	48.8±7.0 (6)	55.0 (10)		45.1 (168)
2000-01	46.2±1.2 (45)	44.4 (27)	42.4±0.7 (42)	50.6±2.0 (17)	42.4±2.8 (4)	60.5 (11)		46.2 (146)
2001-02	49.8±0.8 (51)	44.7±1.4 (32)	44.0±1.0 (34)	46.7±4.9 (14)	44.4±2.6 (11)	45.0 (12)		46.4 (154)
2002-03	47.83±0.5 (61)	40.2±1.1 (39)	44.0±1.5 (20)	47.0±41.2 (27)	41.2±2.9 (4)	50 (15)		45.47 (166)
2003-04	50.52±0.8 (77)	36.8±1.0 (23)	43.87 (62)	40.37±12.4 (40)	41.82±3.2 (8)	48 (11)		44.94 (221)
2004-05	48.18±0.8 (76)	41.7±1.7 (27)	43.4±0.9 (47)	40.0±3.6 (26)	42.5±1.7 (8)	46 (16)		44.83 (200)

2005-06	47.89±0.7 (76)	43.7±1.0 (35)	39.9±1.0 (36)	41.03±1.1 (31)	42.1 (10)	54 (18)		45.0 (206)
2006-07	46.9±1.06 (43)	43.3±1.2 (20)	41.4±1.5 (50)	41.8±1.8 (15)	41.9±2.3 (10)	45 (19)	47.2±0.4 (3)	43.7 (160)
2007-08	48.3±0.6 (77)	42.7±1.0 (30)	41.8±1.5 (42)	44.4±1.1 (30)	45.8±0.9 (28)		46.4±0.7 (10)	45.3 (217)
2008-09	47.7±0.97 (44)	42.5±0.7 (43)	40.7±1.8 (31)	48.4±1.1 (40)	39.7±1.8 (16)	54.0 (17)	43.8±0.9 7 (7)	44.56 (181)
2009-10	49.2±0.75 (51)	39.3±1.2 (29)	41.1±1.4 (25)	45.7±1.1 (27)	41.3±4.7 (15)		43.6±0.14 (14)	44.35 (161)
2010-11	49.9±1.0 (35)	39.1±1.4 (21)	41.26 (50)	45.8±1.8 (33)	39.6±1.2 (25)		43.7±0.44 (9)	43.49 (173)
2011-12	51.9 (37)	37.4 (22)	42.13 (24)		45.6±3.2 (20)			45.30 (103)
2012-13	44.5±1.4 (37)	38.9±3.5 (34)	41.6±5.7 (29)		39.7±2.8 (7)	KVASU	LRS Mamnoor	41.62 (107)
2013-14	45.6±0.8 (37)	42.3±1.6 (12)	41.8±3.8 (36)	46.6±1.4 (33)	38.2±2.2 (18)	59.2±7.4 (7)		43.68 (143)
2014-15	42.8±0.8 (61)	38.6±0.6 (23)	40.4±1.2 (35)	45.9±1.7 (17)	37.64±1.3 (18)	RC ER Patna		41.37 (154)
2015-16	44.96±1.2 (24)	40.2±0.7 (24)	39.3±1.3 (24)	41.7±1.28 (27)	40.2±2.6 (9)	--	54.0±1.19 (4)	41.88 (112)



Average Service period at various participating herds

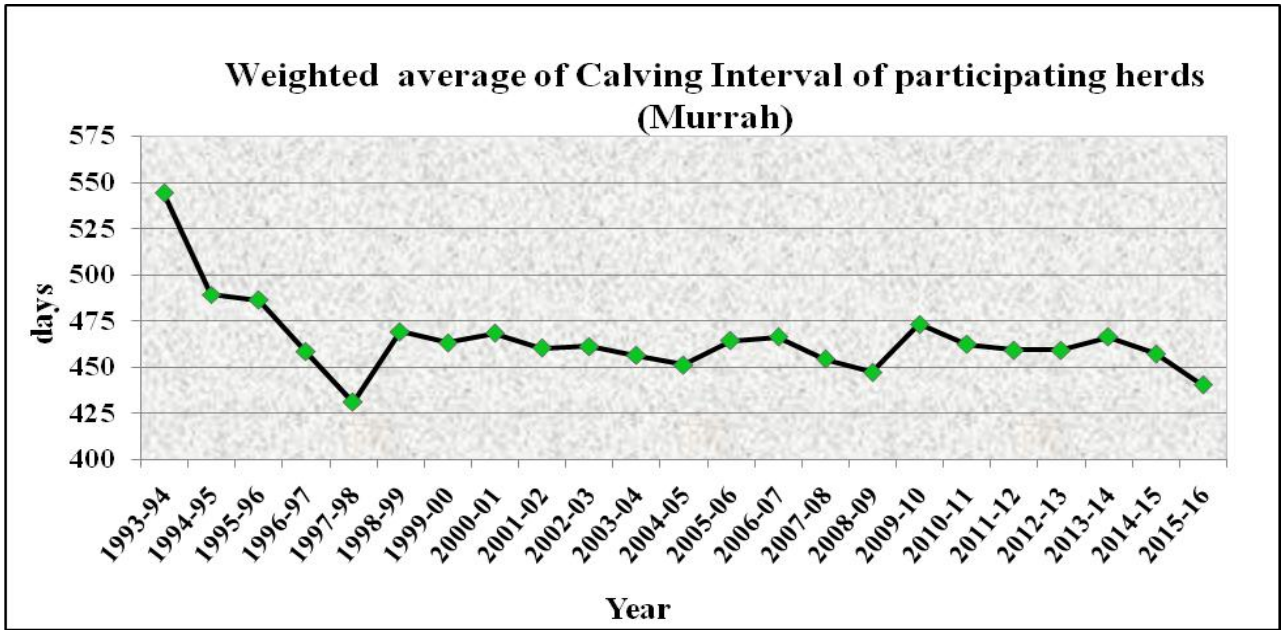
Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Wt. Avg.
1992-93	304±15 (96)	207 (100)			120±33 (8)	115		249 (204)
1993-94	312±158 (158)	228 (105)	148 (97)	107.5	101±16 (10)	165		239 (370)
1994-95	202±15 (105)	206 (96)	119 (70)	163.1	77±5 (9)	159		179 (280)
1995-96	193±10 (149)	218 (105)	115 (72)	135.0	100±12 (12)	132		175 (391)
1996-97	182±10 (149)	196 (76)	114 (66)	107.0	125±11 (7)	204		158 (361)
1997-98	175±14 (106)	248 (94)	97 (59)	107.7	83±06 (11)	175		167 (325)
1998-99	137±09 (121)	232 (81)	118 (63)	108.7	153±25 (11)	186		159 (323)
1999-00	138±09 (104)	213 (59)	159 (82)	148.3	190±28 (16)	187		162 (310)
2000-01	146±09 (151)	197 (81)	107±14 (53)	146.0	165±22 (17)	163		153 (370)
2001-02	146±11 (125)	202±14 (83)	123±9 (77)	147±14 (31)	134±25 (12)	126 (69)		150 (397)
2002-03	133±9 (126)	133±9 (95)	141±12 (59)	165±11 (47)	405±96 (5)	102 (76)		135.4 (408)
2003-04	151±10 (142)	160 (107)	131.65 (117)	87.6±8.4 (42)	108±15.5 (19)	48 (11)		134.7 (432)
2004-05	111±7 (100)	140 (80)	126±10 (93)	96±6.0 (52)	150±16 (30)	160 (87)		130 (442)
2005-06	184±12 (112)	143 (65)	149±12 (68)	148±8.5 (128)	180±28 (54)	253 (32)		167 (459)
2006-07	183±11 (113)	166±15 (69)	131±10 (80)	165±12 (60)	139±15 (40)	151 (37)	99±12.7 (22)	156 (421)
2007-08	159±11 (113)	147±12 (53)	119±11 (84)	165±16 (57)	115±7.5 (62)		109±15.6 (22)	140 (391)
2008-09	171±12 (80)	142±9 (90)	131±22 (61)	139±13 (54)	152±12 (48)	191 (63)	91±17.5 (22)	144 (355)
2009-10	212±17 (77)	151±10 (76)	146±22 (62)	157±12 (68)	122±11 (59)		130±14.6 (17)	159 (359)
2010-11	186±14 (80)	154±12 (94)	145 (76)	155±12 (38)	175±16 (35)		140±3.9 (15)	161 (338)
2011-12	181 (80)	136 (65)	121 (87)		153±216 (29)	KVASU 153	**Mamnoor**	147 (261)
2012-13	174±12 (72)	151±13 (53)	124±27 (69)		213±26 (30)	298±42 (11)	172 (9)	165 (244)
2013-14	190±11 (86)	159±11 (67)	128±11 (73)	118±9 (39)	140±13 (39)	322±115 (6)	143±11 (14)	155 (324)
2014-15	168±8 (88)	160±18 (40)	135±19 (71)	117±11 (52)	124±12 (55)	**RC ER Patna**	141±17 (34)	143 (340)
2015-16	138±7 (111)	162±116 (26)	134±23 (92)	127±10 (58)	142±15 (51)	140±5 (12)	128±15 (27)	137 (377)



Average calving interval at various participating herds

Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Weighted average
1992-93	489±16 (42)	510 (100)			404±22 (8)	498		495 (250)
1993-94	625±10 (161)	532 (106)	428 (98)		406±17 (3)	480		544 (368)
1994-95	527±10 (116)	512 (96)	428 (70)	459	377±08 (20)	523		489 (302)
1995-96	501±09 (152)	526 (105)	423 (72)	456 (40)	401±16 (7)	539		486 (376)
1996-97	473±09 (152)	510 (76)	423 (66)	408 (76)	424±23 (7)	510		458 (377)
1997-98	491±10 (118)	553 (94)	395 (60)	389 (55)	392±13 (11)	574		431 (338)
1998-99	455±10 (126)	553 (87)	424 (62)	417 (46)	438±15 (10)	522		469 (331)
1999-00	451±08 (120)	518 (63)	435 (52)	459±34 (49)	422±21 (11)	513		463 (295)
2000-01	454±09 (154)	511 (82)	408±21 (56)	479±33 (25)	411±13 (9)	491		468 (427)
2001-02	456±11 (135)	496±15 (84)	428±13 (43)	457±14 (31)	440±24 (12)	445 (69)		460 (374)
2002-03	440±9 (130)	463±13 (95)	406±16 (31)	472±11 (47)	585±69 (4)	501 (76)		461 (383)
2003-04	458±10 (151)	455 (93)	438 (17)	396.3±8.6 (42)	553±36 (29)	441 (10)		456 (342)

2004-05	426±7 (101)	478±13 (80)	428±20 (35)	402±6.2 (52)	481±28 (37)	480 (87)		451 (392)
2005-06	499±12 (112)	433±14.7 (60)	413±36 (54)	455±8.5 (126)	477 (37)	510 (32)		464 (421)
2006-07	495±11 (116)	437±12 (61)	419±11 (50)	473±12 (60)	452±21 (30)	502 (37)	444±4.6 (21)	466 (375)
2007-08	482±12 (117)	419±7 (58)	441±20 (55)	469±16 (57)	443±21 (43)		408±13 (21)	454 (351)
2008-09	469±12 (85)	438±8 (52)	424±14 (21)	444±13.4 (54)	452±11 (48)	503 (63)	402±17 (22)	447 (282)
2009-10	520±16 (77)	492±17 (72)	413±25 (30)	459±21.4 (68)	445±13 (63)		440±14 (17)	473 (327)
2010-11	492±14 (83)	457±105 (76)	442 (44)	462±12.2 (38)	449±16 (60)		426±6.7 (15)	462 (316)
2011-12	485 (81)	473 (85)	428 (56)		461±18 (39)	KVASU	**LRS Mamnoor**	459 (261)
2012-13	481±12 (73)	453±12 (59)	402±24 (55)		479±23 (31)	654±47 (6)	464±18 (22)	459 (246)
2013-14	495±12 (87)	471±11 (64)	424±24 (48)	423±29 (39)	471±14 (39)	599±48 (12)	398±5 (14)	466 (303)
2014-15	473±8 (88)	513±124 (41)	421±18 (40)	425±11 (52)	439±16 (44)	**RC ER Patna**	462±21 (34)	457 (299)
2015-16	449±7 (111)	458±17 (25)	430±23 (92)	434±11 (58)	447±16 (49)	425±1.4 (12)	426±16 (27)	440 (374)



Average Fat % during the years

Murrah	CIRB	GADVASU	NDRI	LUVAS	IVRI	NDUAT	SVVU	KVASU	Overall
2006-07	7.01 (130)	7.57 (82)	8.07 (99)	7.6 (37)	7.55 (71)	8.17 (27)			7.55 (446)
2007-08	7.03 (136)	7.31 (71)	7.92 (101)	7.70 (30)	7.99 (111)	8.02 (24)			7.58 (473)
2008-09	7.82 (1436)	7.80 (78)	7.98 (787)	7.3 (652)	8.19 (1244)	7.96			7.88 (4197)
2009-10	7.70 (85)	7.54 (79)	8.11 (1083)	6.8 (65)	7.97 (1008)	7.92 (20)			7.98 (2340)
2010-11	7.81 (1257)	8.17 (87)	8.03 (1107)	6.9 (783)	8.01 (1080)	7.99	7.18 (546)		7.69 (4860)
2011-12	7.66 (1257)	7.99 (88)	8.19 (750)		8.08 (924)		**LRS Mamnoor**		7.93 (3019)
2012-13	7.66 (1240)	8.27 (83)	8.15 (1010)		7.88 (872)		7.56 (196)	8.95 (12)	7.88 (3413)
2013-14	8.44 (1194)	8.59 (61)	7.90 (101)	6.80 (61)	7.89 (82)		8.20 (133)	7.80 (2423)	8.00 (4055)
2014-15	8.46 (1168)	8.33 (61)	8.30 (116)	7.20 (64)	7.87 (363)	**RC ER Patna**	8.15 (268)	--	8.26 (2040)
2015-16	--	7.97 (54)	8.28 (1648)	7.4 (78)	7.91 (996)	7.35 (84)	8.00 (380)	--	8.08 (3240)
Between breeds	**Murrah**	**Nili Ravi**	**Bhadawari**	**Jaffarabadi**	**Pandharpuri**	**Surti**	**Godavari**	**Swamp**	
2006-07	7.55 (446)	6.8 (118)	7.65 (34)	8.21 (34)	8.01 (25)	7.12 (34)	7.38 (47)	8.38 (12)	
2007-08	7.58 (473)	6.70 (122)	8.09 (106)	8.25 (29)	8.03 (15)	7.25 (34)	7.00 (47)	7.67 (21)	
2008-09	7.88 (4197)	6.9 (108)	8.09 (604)	8.61 (260)	8.04 (180)	7.33 (446)		7.73 (16)	
2009-10	7.98 (2340)	6.9 (146)	8.02 (375)	8.02 (446)	8.04 (257)	7.5 (301)	7.64 (44)	8.52 (20)	
2010-11	7.69 (4860)	6.8 (98)	8.20 (309)	8.01 (364)	8.03 (203)	8.06 (267)		8.91 (159)	
2011-12	7.93 (3019)	7.3 (81)	8.03 (195)	8.03 (27)	8.03 (630)	7.93 (229)		9.23 (115)	
2012-13	7.88 (3413)	7.62 (123)	8.16 (242)	8.24 (1632)	8.01 (545)	7.96 (240)		8.04 (155)	
2013-14	8.00 (4055)	8.20 (109)	8.65 (309)	8.06 (34)	7.85 (187)	7.89 (226)		10.16 (184)	
2014-15	8.265 (2040)	7.86 (115)	8.12 (340)	8.46 (386)	8.02 (289)	7.58 (364)		8.45 (62)	
2015-16	8.08 (3240)	7.38 (110)	8.26 (28)	8.38 (403)	8.09 (137)	7.43 (187)		8.35 (82)	

Total AI, Calving, PD, Conception and daughter's milk recording in Field Units

Murrah Breed	AI	Pregnancy	Total calving	Daughters born	Daughters Recorded
GADVASU, Ludhiana					
2001-02	493	184	-	-	3
2002-03	1908	723	229	135	20
2003-04	1858	629	472	245	26
2004-05	2435	726	466	215	14
2005-06	2822	967	699	333	55
2006-07	3313	1178	755	357	50
2007-08	4015	1438	870	368	82
2008-09	4147	1622	1149	491	83
2009-10	5415	1878	1140	538	125
2010-11	6846	2289	1274	603	52
2011-12	7298	2814	1800	853	-
2012-13	8517	3463	2497	1155	-
2013-14	8014	3380	2831	1303	-
2014-15	8316	3810	2958	1447	-
Sub Total	**65397**	**25101**	**17140**	**8043**	510
2015-16*	6325	3054	3013	1383	-
Total	**71722**	**28155**	**20153**	**9426**	510
CIRB, Hisar					
2001-02	139	25	15	7	-
2002-03	540	236	147	73	12
2003-04	1001	356	237	129	15
2004-05	1298	566	361	173	21
2005-06	1999	1009	744	345	55
2006-07	2102	1139	650	305	48
2007-08	2132	1104	694	341	58
2008-09	2176	1086	955	477	72
2009-10	2803	1450	1276	627	88
2010-11	3433	1743	787	377	91
2011-12	3308	1756	1103	557	73
2012-13	4204	2104	1247	553	-
2013-14	3962	1903	1079	517	-
2014-15	4129	2218	1614	776	-
Sub Total	**33226**	**16695**	**10909**	**5257**	**533**
2015-16*	4434	2486	1718	818	-
Total	**37660**	**19181**	**12627**	**6075**	533
NDRI, Karnal					
2004-05	2223	993	710	333	34
2005-06	2224	994	875	400	45
2006-07	2193	976	918	440	65
2007-08	2594	1212	1140	517	109
2008-09	2529	1190	1086	503	138
2009-10	2739	1377	1159	569	211
2010-11	2747	1399	1225	560	183
2011-12	2995	1600	1860	905	133
2012-13	2905	1422	1159	569	
2013-14	4419	2242	1225	560	

2014-15	3941	2033	1860	905	
Sub Total	**31509**	**15438**	**13217**	**6261**	**918**
2015-16*	3905	1994	192	88	
Total	**35414**	**17432**	**13409**	**6349**	**918**
Grand Total	**144796**	**64768**	**46189**	**21850**	**1961**
NDUAT Faizabad					
2006-07	482	57	222	103	
2007-08	372	122	143	61	
2008-09					
2009-10	1178	416	275	122	
2010-11	3695	427	328	164	
2011-12	Centre closed				
Total	**5727**	**1022**	**968**	**450**	
SVVU Venkataramangudam					
2010-11	282	67	21	8	
Grand Total	**150805**	**65857**	**47178**	**22308**	**1961**

* AI from April 2015 to March 2016; Pregnancies confirmed upto March 2016 against AI done till Dec 2015; Calving confirmed upto March 16 against AI done till Dec 15;

OTHER BREEDS

	AI	Pregnancy	Total calving	Daughters born	**Daughters Recorded**
Jaffarabadi (JAU, Junagadh)					
2005-06	15				-
2006-07	966				-
2007-08	2169	1196(1907)	468	223	-
2008-09	2961	1141(2065)	944	455	-
2009-10	3070	1563(2676)	1429	694	10
2010-11	3457	1613(2651)	1333	666	7
2011-12	3738	1603(2918)	1538	729	2
2012-13	4067	1776(3627)	1684	810	-
2013-14	4121	1957(4021)	1688	801	-
2014-15	4781	2150(4271)	1564	731	-
2015-16*	3375	1719(3691)	1892	867	-
Total	**32720**	**14718(27827)**	**12540**	**5976**	**19**
Surti (LRS, Vallabhnagar)					
2001-02	2256	477	393	165	50
2002-03	1850	472	362	159	49
2003-04	1980	471	352	167	50
2004-05	1861	551	445	186	29
2005-06	1717	536	446	170	33
2006-07	1637	506	411	162	36
2007-08	1811	542	420	184	18
2008-09	1804	604	502	218	15
2009-10	1975	671	529	224	14
2010-11	2038	681	458	203	19
2011-12	2023	520	475	226	2
2012-13	1897	583	497	198	1
2013-14	1591	555	410	158	-
2014-15	1534	455	409	156	-
2015-16*	1986	556	345	145	-
Total	**27960**	**8180**	**6454**	**2721**	**316**

Pandharpuri (MPKV, Kolhapur)					
2006-07	3969	1530	770	382	40
2007-08	5299	2001	1254	544	42
2008-09	9349	4402	1314	660	70
2009-10	25006	9622	4273	1902	80
2010-11	22602	10337	6093	2086	108
2011-12	21047	9263	5906	2619	105
2012-13	4081	2183	3520	1523	43
2013-14	3766	2202	2800	1301	-
2014-15*	4329	2104	1165	514	-
2015-16	4607	2212	2039	949	-
Over all	**104055**	**45856**	**29134**	**12480**	**488**
Godavari, SVVU, Venkataramanngudem					
2006-07	2167	530	271	124	
2007-08	1436	619	428	202	
2008-09					
2009-10	196	32	86	40	Centre closed
Total	**3799**	**1181**	**785**	**366**	
Grand Total	**168584**	**69935**	**48913**	**21543**	**823**

* upto December of the year 15